MINUTES OF THE RADIOACTIVE MATERIALS

CONTAMINATION CONTROL STEERING COMMITTEE

February 18, 1980

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DEPT:

LOCATION:

DATE: February 19, 1980
FROM DEPT: 923
CODE NO: GAT-923-80-47c ✓
REFERENCE:

SUBJECT: MINUTES OF THE EIGHTH SPECIAL MEETING - FEBRUARY 18, 1980

PRESENT:

C. P. Blackledge	C. A. Mentges
R. W. Brown	W. G. Russell
P. S. Burleson	W. R. Schultz
V. S. Emler	J. L. Yocum
D. B. Jones	R. M. Zeek

The meeting was opened at 3:00 p.m. by Mr. W. R. Schultz.

Implementation of Consistent Health Protection Measures in X-326

1) Discussions focused upon the proposed health physics plan (GAT-923-80-38c) for prescribing health protection measures and contamination control techniques for job assignments in X-326 during the time it is being decontaminated.

   The recommended health protection measures and contamination control procedures for X-326 as proposed by the health physics staff were accepted by the Committee for implementation with one exception.

   Shoe covers will be required only for personal shoes in the contaminated area. Shoe covers will not be required for company-issued shoes with the exception that shoe covers will be required for the Police Department personnel.

   In order to determine the magnitude of contamination tracking, the following surfaces will be monitored weekly.

   Stairway - X-27-1 East (ERP)
   Stairway - X-25-2 Center (Maintenance)
   Stairway - X-25-3 Center (Maintenance)
   Stairway - X-25-6 West (PW, Degrader, Security Patrol)
   Traffic between "clean" floor surfaces and contaminated floor surfaces

   If the above surveys indicate the tracking of contamination, then Department 923 prescribed measures will be taken to reduce the probability of recontamination.

2) Maintenance and Operations personnel will pursue the development of storage for company-issued shoes.

3) The health physics staff will order reusable, durable shoe covers for field evaluation.

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MINUTES OF THE RADIOACTIVE MATERIALS

CONTAMINATION CONTROL STEERING COMMITTEE

February 27, 1980

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J. G. Grose	J. L. Taylor
D. B. Jones	J. P. Vournazos
C. R. Keen	J. F. Wettstein
C. A. Mentges	J. L. Yocum
G. W. Parks	

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INTERDEPARTMENTAL CORRESPONDENCE

TO: Listed Distribution

DEPT:

LOCATION:

DATE: March 6, 1980

FROM DEPT: 923

CODE NO: GAT-923-80-53c

REFERENCE:

SUBJECT: MINUTES OF THE FOURTH REGULAR MEETING - FEBRUARY 27, 1980

PRESENT: C. P. Blackledge, P. S. Burleson, V. S. Emler, D. B. Jones, W. G. Russell, W. R. Schultz

The meeting was opened at 10:50 a.m. by Mr. W. R. Schultz.

Mr. Schultz reviewed the minutes of the Committee meetings and summarized current activities and Committee commitments.

Subcommittee Status

Subcommittee activities were briefly reviewed with Mr. Schultz emphasizing the need for the Committee to redirect its activities to perform as a steering committee. It was agreed that only the following three subcommittees would remain chartered. The Steering Committee will review and discuss reports from these subcommittees at the next regular meeting scheduled for March 26, 1980 at 10:30 a.m. in the Management Conference Room.

Subcommittee #1

Membership: C. N. Spradlin, Co-Chairperson
J. P. Vournazos, Co-Chairperson
P. S. Burleson
J. F. Wettstein
J. G. Grose

Charter: Prepare a comparison of procedural requirements for contamination control and actual work practices with DOE and NRC health physics guidelines.

Report: A summary report of this study should be ready for presentation to the Committee at the next regular meeting scheduled for March 26, 1980.

Subcommittee #2

Membership: H. R. Giorgio, Chairperson
B. W. Short
J. L. Taylor

Charter: Summarize the technical basis for relating the establishment of contamination limits to exposure potentials and routes of exposure.

Report: A summary report of this study should be ready for presentation to the Committee at the next regular meeting scheduled for March 26, 1980.

Subcommittee #3

Membership: W. M. Reffit, Chairperson
P. S. Burleson
R. E. Dever
C. R. Keen
G. W. Parks
R. E. Shepherd

Charter:
1) Complete the decontamination plan for X-326.
2) Pursue the development of storage for company-issued shoes.
3) Conduct field evaluation of reusable, durable shoe covers.
4) Evaluate decontamination progress and review methods and options for augmenting the dedicated decontamination crew.
5) Establish a mechanism for communicating X-326 decontamination and contamination control activities to OCAW representatives. These discussions should be held at least once a month. A report of these meetings should be included in the monthly subcommittee report.
6) Identify failures and successes of the contamination control program in X-326.
7) Identify problems or issues which need to be resolved in X-326.

Report: Prepare a brief report each month which summarizes decontamination activities and provides the status of all subcommittee activities. This report should be submitted to the Committee at least one week before each regular meeting.

With the exception of the three subcommittees chartered above, all other subcommittee activities have been successfully completed.

X-326 Decontamination Plan

The Committee accepted Mr. R. M. Zeek's recommendations concerning the priorities for decontamination (see the minutes of the Eighth Special Meeting - February 18, 1980).

Correction of Meeting Minutes

The minutes of the Eighth Special Meeting (February 18, 1980) stated that the Industrial Engineering staff is reviewing contamination control and decontamination activities. The Industrial Engineering staff is only evaluating these activities as pertaining to a study of work flow in X-705.

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R. D. Jackson

New Business

The next regular meeting of the Committee will be held on March 26, 1980 at 10:30 a.m. in the Management Conference Room.

C. P. Blackledge, Jr., Supervisor
Industrial Hygiene & Health Physics

W. R. Schultz, Assistant General Manager
Technical Services

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X-326 Decontamination Action Plan

1) The draft action plan was briefly discussed. A special meeting will be scheduled to review the plan.

2) Mr. R. M. Zeek requested that the first four priorities for decontamination be re-ordered as follows:

1. Cell Floors
2. Bypass Housings
3. Condenser Platforms
4. Cell Housings

3) Mr. Schultz requested that Mr. Yocum and Mr. Mentges review methods and options for augmenting the dedicated decontamination crew.

Mr. Yocum reported that the Industrial Engineering staff is reviewing contamination control and decontamination activities.

C. P. Blackledge, Jr., Supervisor
Industrial Hygiene & Health Physics

W. R. Schultz, Assistant General Mgr.
Technical Services

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R. D. Jackson

MINUTES OF THE RADIOACTIVE MATERIALS

CONTAMINATION CONTROL STEERING COMMITTEE

February 14, 1980

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V. S. Emler	W. E. Wills
D. B. Jones	J. L. Yocum
E. F. Marsh	R. M. Zeek

INTERDEPARTMENTAL CORRESPONDENCE

TO: Listed Distribution

DEPT:
LOCATION:

DATE: February 18, 1980
FROM DEPT: 923
CODE NO: GAT-923-80-46c
REFERENCE:

SUBJECT: MINUTES OF THE SEVENTH SPECIAL MEETING - FEBRUARY 14, 1980

The meeting was opened at 3:00 p.m. by Mr. W. R. Schultz.

Implementation of Consistent Health Protection Measures in X-326

1) Discussions focused upon the differences between the Temporary Operating Specification (CN 11.1) and the health physics plan (GAT-923-80-38c). Mr. C. A. Mentges and Mr. R. M. Zeek identified problems which their organization would have in implementing the control measures recommended by the Industrial Hygiene and Health Physics staff. Since it was not possible to resolve the differences in operating philosophies during the meeting, each member of the Committee was requested to review the health physics plan and submit comments.

2) Additional meetings will be scheduled to discuss implementation of contamination control measures by subcontractors.

X-326 Decontamination Plan

Mr. Schultz distributed copies of the draft X-326 Decontamination Action Plan to Committee members for review. The draft defined the priorities and responsibilities for achieving the objective of reducing the contamination level to a contamination index of less than 10. The draft action plan also contained a schedule for the decontamination of the cell floor.

A special meeting will be scheduled to review this plan.

C P Blackledge Jr

C. P. Blackledge, Jr., Supervisor
Industrial Hygiene & Health Physics

W. R. Schultz, Assistant General Mgr.
Technical Services

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R. D. Jackson

MINUTES OF THE RADIOACTIVE MATERIALS

CONTAMINATION CONTROL STEERING COMMITTEE

February 8, 1980

DISTRIBUTION

C. P. Blackledge	C. A. Mentges
R. W. Brown	W. G. Russell
V. S. Emler	W. R. Schultz
D. B. Jones	J. L. Yocum

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R. D. Jackson

INTERDEPARTMENTAL CORRESPONDENCE

TO: Listed Distribution

DEPT:
LOCATION:

DATE: February 18, 1980
FROM DEPT: 923
CODE NO: GAT-923-80-45c ✓
REFERENCE:

SUBJECT: MINUTES OF THE SIXTH SPECIAL MEETING - FEBRUARY 8, 1980

PRESENT:

C. P. Blackledge	C. A. Mentges
V. S. Emler	W. R. Schultz
D. B. Jones	J. L. Yocum

The meeting was opened at 11:00 a.m. by Mr. W. R. Schultz. Mr. Schultz reviewed the recommendations made by DOE following an investigation of a complaint concerning the radioactive contamination status of the X-326 Building.

Implementation of Consistent Health Protection Measures in X-326

In response to direction by the Committee on January 31, 1980, Mr. C. A. Mentges presented a draft Temporary Operating Specification, "Guidelines for Non-Emergency Access Control of X-326". Following detailed discussions of this plan and review of a draft health physics plan, it was determined that the Temporary Operating Specification would be issued with only minor changes as the guideline for specifying minimum health protection measures.

Mr. C. P. Blackledge stated that health physics personnel would continue to use the health physics plan (GAT-923-80-38c) as guidance in recommending health protection measures for job assignments in X-326.

CP Blackledge, Jr.

C. P. Blackledge, Jr., Supervisor
Industrial Hygiene & Health Physics

W. R. Schultz, Assistant General Mgr.
Technical Services

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W. G. Russell
W. R. Schultz
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INTERDEPARTMENTAL CORRESPONDENCE

TO: Radioactive Materials Contamination Control Steering Committee

DEPT:

LOCATION:

DATE: February 11, 1980

FROM DEPT: 923

CODE NO: GAT-923-80-38c ✓

REFERENCE: GAT-923-79-473c
GAT-923-78-297c
GAT-923-77-258

SUBJECT: RECOMMENDED HEALTH PROTECTION MEASURES AND CONTAMINATION CONTROL PROCEDURES FOR X-326

In response to the request of the Radioactive Materials Contamination Control Steering Committee, we have attempted to prepare health protection criteria to be used in governing job assignments in X-326 during the time it is being decontaminated. The attachments describe these health protection criteria.

The attached measures are recommended in addition to the measures specified in the fourth draft of Mr. V. S. Emler's subcommittee plan of January 28, 1980. In order to facilitate daily building operations, Mr. Ray E. Dever has been assigned as the specific representative of the Industrial Hygiene and Health Physics Department. He will receive technical support and consultation from C. N. Spradlin, C. P. Blackledge, and H. R. Giorgio, who is assigned as health physicist to the X-326 Building.

In order to effectively administer this control program, we request that an area be considered as "clean" only when the floor surfaces, housings, cascade and auxiliary equipment, and other accessible surfaces have contamination levels below plant allowable limits. We do not feel that it is either practical or effective to classify an area as "clean" when only the floor surface is clean and when all other surfaces, with which an employee could come into contact, are contaminated. Our recommended protection criteria and control techniques have been developed with the assumption that this recommended position has been adopted. In order to facilitate daily operations, we have the following recommendations:

1) All barriers which were installed to identify varying degrees of contamination on the cell floor should be removed (for example, U's with floor contamination levels greater than 25).

2) HWP's should not be required for Industrial Hygiene and Health Physics personnel, provided that compliance with recommended procedures is assured.

3) During emergency conditions, the PED may require additional or different measures.

4) A barrier should be established between the clean and contaminated areas as defined above.

APPROVED FOR RELEASE BY:

R. D. Jackson

Original signed by
C. P. Blackledge, Jr.

C. P. Blackledge, Jr., Supervisor
Industrial Hygiene & Health Physics

CPB:mjc

Attachment

cy R. E. Dever
H. R. Giorgio
C. N. Spradlin

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R. D. [illegible]

RECOMMENDED HEALTH PROTECTION MEASURES AND CONTAMINATION CONTROL PROCEDURES FOR X-326

Introduction

In order to minimize personnel exposures to radioactive materials, the Industrial Hygiene and Health Physics Department recommends that the following measures and controls be implemented. All personnel including employees, visitors, and subcontractors will be required to comply.

The wearing of the prescribed protective equipment in the proper manner is the best measure for preventing the spread of contamination to the individual and/or his/her personal clothing and effects.

The development of careful, clean, hygienic, and safe work habits is a must when working in contaminated areas.

I. General - Assignment in Contaminated Areas

All personnel (subcontractors, visitors, employees, etc.) are required to comply with these measures as a minimum. Job specific requirements are set forth in Section II.

A. HWP will be required in accordance with V. S. Emler's draft plan.

B. Clothing

1. Shoe covers
   a. Shoe covers will be required unless the use of shoe covers poses a safety hazard or unless the shoe covers will not maintain their integrity during the required work. Under these conditions, "yellow" shoes will be required.
   b. Shoe covers must be discarded in the appropriate waste barrel upon leaving the contaminated area.
   c. "Yellow" shoes must be covered with shoe covers when worn in an uncontaminated area. "Yellow" shoes should be removed as soon as possible after leaving a contaminated area to prohibit the transfer of contamination to a clean area.
2. Gloves
   a. Company-issued gloves, excluding white "undertaker's gloves", or Police-issued gloves are required whenever hand contact with contaminated surfaces is possible. Specific types of hand protection will be required for certain assignments.
3. Coveralls
   a. Company-issued coveralls or disposable coveralls are required whenever body contact with contaminated surfaces is possible.
4. Undergarments
   a. Company-issued undergarments are not required unless specified under the conditions of Section II.
5. General
   a. Shoe covers and coveralls may be worn over personal shoes and clothes provided that the work assignment is not subject to the conditions of Section II.

b. The use of personal articles of clothing in substitution for the items required above is not permitted.

C. Eating, drinking, smoking, and the chewing of gum, tobacco, etc. are not permitted.

D. Recreational activities are not permitted.

E. Monitoring
1. All personal outerwear or uniforms that are worn in the area must be monitored immediately upon leaving the area.
2. Employees must monitor their hands and company-issued clothing upon leaving the area.
3. Contaminated clothing detected through monitoring must be removed in a designated change area prior to moving to other area.
4. Hands and clothing must be monitored before eating, smoking, etc.
5. If contamination in excess of maximum levels is detected on clothing, a body survey for skin contamination should follow.
6. Operations must survey all lunch areas and locker/shower/change areas for radioactive contamination at least once every two weeks.
7. Only trained personnel should perform monitoring services.

F. Designated Change Areas
1. A change area in each locker room must be designated and posted for the removal of contaminated clothing.
2. All contaminated clothing must be removed in the designated area and deposited in an adjacent hamper.
3. Contaminated shoes and gloves must be placed in racks and not in lockers with personal clothes.
4. Under no circumstances, should contaminated equipment or wearing apparel be stored with personal clothing.
5. If an individual who does not have a change locker in X-326 has contaminated clothing, the clothing must be removed as described above and disposable coveralls worn to return to his/her own locker area.
6. Contaminated personal clothes must be placed in a water soluble bag and delivered to the Laundry with identification.

G. Equipment, Materials, Tools, and Waste/Garbage
1. Waste materials
a. All waste materials (rags, garbage, cleaning agents, sweepings, etc.) should be treated as radioactively contaminated and disposal must be in accordance with plant procedures.
b. Contaminated waste "Burn Barrels" must be located at the exits of all contaminated areas.
c. All waste containers which are designated for non-contaminated material should be removed from the area.
d. Contaminated waste must be deposited only in containers approved for contaminated materials.

2. Equipment and Materials
   a. All equipment and materials must be monitored or tagged in accordance with plant procedures before leaving the area. It will not be necessary to re-monitor materials which have recently been monitored (barrier boxes) and tagged.
   b. All equipment or materials requiring monitoring should be moved to the designated staging area on the operating floor for monitoring.
   c. All process equipment, auxiliary equipment, housings, fire extinguishers, argon gas cylinders, vehicles, welding units, subcontractor equipment and tools, scaffolding, etc. are subject to the above requirements.
3. Tools
   a. Tools used regularly and continuously in the area should be stored in designated boxes or areas which are identified as contaminated. These tools and/or boxes will have to be monitored prior to leaving the building or tagged in accordance with plant procedures. These tools will be monitored periodically.
   b. Tools and equipment taken into the contaminated area only occasionally should be surveyed by the employee after each use. Contaminated tools should be appropriately tagged, wrapped securely, and stored segregated from other tools and equipment to prevent further use until decontamination.
   c. All tools must be monitored or tagged in accordance with plant procedures before leaving the building.
4. Weapons
   a. The police weapons must be monitored prior to leaving the building.

H. Traffic Control
1. Vehicular and pedestrian traffic should be reduced to a minimum with access to the area restricted through ACR V.
2. A traffic pattern should be established to limit ingress and egress to certain locations. These locations with approved traffic patterns should be posted.
3. Change stations for removal of shoe covers should be identified, posted, and provided with appropriate disposal containers.
4. "Clean" boundary
   a. Boundary should be established around the "clean" area to control the spread of contamination into the area.
   b. Access to a decontaminated "clean" area should be limited to certain locations. (See Section I.H.2.)
   c. Change stations should be established in accordance with Section I.H.3.
   d. Unnecessary traffic between "clean" and contaminated areas is prohibited.

I. Personnel Contamination and Decontamination
1. Personnel monitoring

a. Individuals must monitor their hands upon leaving the area.
b. Hands must be monitored before eating, smoking, etc.
c. If contamination in excess of maximum levels is detected on clothing, a body survey for skin contamination must follow.
d. The above requirements pertain to all employees, subcontractors, visitors, etc.

2. Contamination/Decontamination
   a. Whenever personnel work with radioactive materials, there is always some possibility of an employee becoming contaminated.
   b. Whenever skin contamination is detected, the individual should make every effort to remove the contamination through normal washing with soap and water. If washing is unsuccessful, the individual should report to the GAT Hospital for assistance in decontamination.
   c. Showering is not required unless the individual has body contamination or unless specified in Section II.

J. Information
   1. Operations will maintain an information board at ACR V to depict decontamination progress.
   2. Refer to V. S. Emler's draft implementation plan.

II. Specific Job Requirements in Contaminated Areas

All personnel are required to comply with the measures specified in Section I in addition to the measures identified below.

A. Clothing
   1. Any individual who receives an assignment in a contaminated area which involves more contact with contaminated material than the following activities is required to comply with the clothing measures specified below.

Minimal Contact Activities
Casual Visitors
Observers
Walk-Through Inspections
Building Tours
Visual Inspections

Therefore, any individual, employee, subcontractor, or visitor who is required to work with, handle, modify, manipulate, or work on contaminated equipment or surfaces is required to wear, as a minimum, the following company-issued articles of clothing:

undergarments,
coveralls,
socks,
shoes, and
gloves

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R. D. Jackson

2. The use of personal articles of clothing in substitution for the items listed in Item II.A.1 is not permitted.

B. Health protection measures specified for special maintenance activities such as work involving the Freon Degrader, Top Purge, and Excessive Uranium Deposit will remain in effect.

C. Any individual, employee, or subcontractor performing a job which may result in the resuspension of radioactive contamination to locally high airborne levels must don appropriate respiratory protection while performing the task. Respiratory protection will be specified in accordance with Industrial Hygiene and Health Physics procedures (GAT-923-77-368).

D. Boundaries will be established around all activities which require health protection measures in addition to those specified in Section I and Section II.A.1. The Health Physics staff will develop guidelines governing the use and removal of barriers.

E. All personnel required to wear the equipment specified in Section II.A.1 will be required to shower at the end of the shift.

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02/11/80

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MINUTES OF THE RADIOACTIVE MATERIALS

CONTAMINATION CONTROL STEERING COMMITTEE

January 30, 1980

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J. G. Grose	C. N. Spradlin
D. B. Jones	J. P. Vournazos

J. L. Yocum

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R. D. Jackson

INTERDEPARTMENTAL CORRESPONDENCE

TO: Listed Distribution

DEPT:
LOCATION:

DATE: February 4, 1980
FROM DEPT: 923
CODE NO: GAT-923-80-33c
REFERENCE:

SUBJECT: MINUTES OF THE THIRD REGULAR MEETING - JANUARY 30, 1980

PRESENT:
C. P. Blackledge
R. W. Brown
H. R. Giorgio
J. G. Grose
D. B. Jones
W. J. Lemmon
C. A. Mentges
W. G. Russell
W. R. Schultz
C. N. Spradlin
J. P. Vournazos

The meeting was opened at 11:00 a.m. by Mr. W. R. Schultz.

Old Business

Mr. C. P. Blackledge distributed the fourth draft of the X-326 Contamination Status Committee action plans for implementing consistent health protection measures for all potentially exposed employees until decontamination efforts are completed.

Attendees were requested to review this plan and be prepared to discuss the program at the next special meeting of the Radioactive Materials Contamination Control Steering Committee to be held at 11:00 a.m. on January 31, 1980.

Subcommittee Activities and Reports

1) Mrs. C. N. Spradlin summarized her subcommittee's activities and presented an overview of GAT policies, documents, and procedures governing contamination control. A copy of the preliminary report (GAT-923-80-91h) was distributed to all Committee members. The subcommittee used NRC and DOE regulations and standards as guidelines in identifying contamination control techniques and procedures. The review was limited to the procedures and documents used by the 700 and 800 Divisions. Each document was reviewed for comments or procedures concerning:

   a) Disposition of Contaminated Materials or Equipment - (includes methods or requirements for disposal of contaminated materials or equipment).

   b) Procedures for Material Containment or Material Cleanup - (includes methods or procedures for controlling released process gas, setting buffer zones, requiring after job cleanup).

   c) Protective Equipment Requirements - (includes requirements for the wearing of personal protective equipment such as gloves, coveralls, and respiratory protection).

   The study revealed the following:

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R. D. Jackson

a) Many procedures contain some contamination control specifications. However, these procedures have not necessarily addressed all aspects of contamination control.

b) Control techniques are not always applied consistently.

c) Plant policies are not well defined.

2) Mr. J. P. Vournazos summarized his subcommittee's activities and reviewed work practices and administrative controls currently used in the following areas of the plant:

Process Buildings (X-326, X-330, and X-333)
X-705 and X-700 Buildings
Hot Scrap Yard (X-749) and Precious Metal Yard
X-344, X-342, and X-744-G Buildings and HASA
X-720 Building

A copy of the preliminary report (GAT-823-80-19) was distributed to all Committee members. The study revealed the following:

a) Control techniques and work practices are not always applied consistently.

b) Ingress and egress controls are limited.

c) In some areas, there is confusion concerning the actual health protection requirements.

d) Some established controls are not being used.

3) Mr. H. R. Giorgio summarized his subcommittee's activities and presented a review of all of the technical facets involved in establishing a contamination control program. Discussions focused upon the following aspects of a contamination control program.

a) Problem Definition
ALAP/ALARA
Definition of Risk
Exposure/Contamination Limits

b) Implementation of Engineering Controls
Local/Source
Environment

c) Implementation of Administrative Controls
Monitoring
Decontamination
Work Practices and Procedures
Union Contracts

New Business

1) Mr. Schultz requested that Mrs. Spradlin and Mr. Vournazos combine their studies and prepare a comparison of procedural requirements for contamination control and actual work practices with DOE and NRC health physics guidelines. A summary report of this study should be ready for presentation to the Committee at the next regular meeting scheduled for February 27, 1980 at 11:00 a.m. in the Management Conference Room.

2) Mr. Schultz requested that Mr. Giorgio prepare a brief summary of the models which relate the establishment of radioactive surface contamination limits to exposure potentials and routes of exposure.

3) Mr. D. B. Jones requested that actions be taken to requisition the necessary health physics monitoring instrumentation for plant use as soon as possible since there are prolonged delivery times for these instruments. Mr. Blackledge has discussed this problem with Planning and will be preparing a letter to appropriate Division Managers requesting that they identify their requirements for hand counters and field survey meters.

C A Blackledge Jr.
C. P. Blackledge, Jr., Supervisor
Industrial Hygiene & Health Physics

W. R. Schultz, Asst. General Manager
Technical Services

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MINUTES OF THE RADIOACTIVE MATERIALS

CONTAMINATION CONTROL STEERING COMMITTEE

January 31, 1980

DISTRIBUTION

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R. D. Jackson

INTERDEPARTMENTAL CORRESPONDENCE

TO: Listed Distribution

DEPT:
LOCATION:

DATE: February 4, 1980
FROM DEPT: 923
CODE NO: GAT-923-80-32c
REFERENCE:

SUBJECT: MINUTES OF THE FIFTH SPECIAL MEETING - JANUARY 31, 1980

PRESENT:
C. P. Blackledge
V. S. Emler
D. B. Jones
C. A. Mentges
W. G. Russell
W. R. Schultz

The meeting was opened at 11:00 a.m. by Mr. W. R. Schultz.

Subcommittee Report

1) Mr. V. S. Emler presented the fourth draft of the plan for implementing consistent health protection measures for all potentially exposed employees until decontamination efforts are completed in X-326.

After detailed discussions, the Committee agreed to adopt the fourth draft of the plan with only minor changes in wording required.

All Divisions are charged with the responsibility of developing the procedures and documents necessary to implement this plan. These implementation plans must be submitted to the Committee by February 7, 1980.

Mr. Schultz will prepare a letter addressed to all Division Managers, Superintendents, and Supervisors. The letter will describe the action plan for implementing health protection measures in X-326. Following the issuance of this letter, a similar communique will be issued to the OCAW through Mr. J. L. Yocum's combined Company-Union Committee.

C. P. Blackledge, Jr., Supervisor
Industrial Hygiene & Health Physics

W. R. Schultz, Asst. General Manager
Technical Services

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INTERDEPARTMENTAL CORRESPONDENCE

TO: Listed Distribution

DEPT:

LOCATION:

DATE: February 4, 1980

FROM DEPT: 923

CODE NO: GAT-923-80-31c ✓

REFERENCE:

SUBJECT: L. N. MCALLISTER EXPOSURE CASE

In April, 1979, we received a request from the office of Mr. B. L. Mayes (DOE-ORO) for the radiation exposure history of Mr. L. N. McAllister who was employed by Butt and Head as a subcontractor on our site. Mr. McAllister allegedly claimed that his cancer of the lip and mouth were the result of exposures at GAT. In accordance with our instructions, the urinalysis data were forwarded to Mr. Stuart Broad (DOE-HQ).

On February 4, G. L. Love (DOE-ORO) telephoned my office stating that Mr. McAllister was renewing his action and that he allegedly stated that he had given photographs of his condition to GAT representatives. Mr. Love requested that we search our files to determine if pictures had been received and that we forward any such photographs.

Please review your files and any records of contact with Mr. McAllister and inform me of the results of your search. Please complete this search as soon as possible.

C P Blackledge Jr.

C. P. Blackledge, Jr., Supervisor
Industrial Hygiene & Health Physics

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MINUTES OF THE RADIOACTIVE MATERIALS

CONTAMINATION CONTROL STEERING COMMITTEE

January 25, 1980

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INTERDEPARTMENTAL CORRESPONDENCE

TO: Listed Distribution

DEPT:
LOCATION:

DATE: January 28, 1980
FROM DEPT: 923
CODE NO: GAT-923-80-28c ✓
REFERENCE:

SUBJECT: MINUTES OF THE FOURTH SPECIAL MEETING - JANUARY 25, 1980

PRESENT:

G. D. Althouse	W. M. Reffit
C. P. Blackledge	W. G. Russell
R. W. Brown	W. R. Schultz
V. J. DeVito	C. N. Spradlin
V. S. Emler	L. E. Taylor
D. B. Jones	J. P. Vournazos
C. A. Mentges	J. L. Yocum

The meeting was opened at 2:15 p.m. by Mr. W. R. Schultz.

Subcommittee Activities and Reports

1) Mr. W. M. Reffit presented a status report of decontamination activities in X-326. A copy of his report has been attached for reference. In summary, the contamination index for the cell floor has been reduced to less than 75 in all areas and the contamination index for the operating floor is less than 10. Operations personnel are currently conducting a survey of the cell housings.

2) Mr. W. M. Reffit summarized his subcommittee's activities and presented a revised draft of the action plans for the decontamination of X-326. The plan (a copy has been attached for reference) addressed the following:

   a) Optimum use of Chemical Operations personnel.

   b) Supervisional responsibilities.

   c) Priorities and sequence of decontamination.

   d) Controls and containment.

   Mr. Schultz requested that the plan be revised to include the following:

   a) Statement of the decontamination goal (contamination index less than 10).

   b) Schedule for decontamination of the cell floor with the establishment of dates for setting goals and schedules for decontamination of other areas (housings, equipment, etc.).

   c) Statement of responsibility for determining decontamination methods and for providing assurance that the best techniques are being utilized.

   d) Identification of priorities for decontaminating areas and/or

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equipment which were not specified in the plan (for example, inside of cell housings, catwalks and platforms, etc.).

Mr. Schultz and Mr. Russell will investigate the problems associated with relocation of all barrier stored on the cell floor. Mr. Reffit's subcommittee had recommended elimination of this storage area as a means of reducing traffic and access to the building.

3) Mr. V. S. Emler summarized his subcommittee's activities and presented a proposed plan for implementing consistent health protection measures for all potentially exposed employees until the decontamination efforts in X-326 are completed. Discussions focused upon the following aspects of the program.

a) Expanded use of Hazardous Work Permits.

b) Pre-job review of hazard controls by health physics personnel.

c) Health protection for subcontractor personnel.

d) Information flow.

Attendees were requested to review the proposed plan and submit comments to Mr. Emler by January 29, 1980. The subcommittee is requested to review these comments and prepare a revised plan as necessary.

C P Blackledge, Jr.

C. P. Blackledge, Jr., Supervisor
Industrial Hygiene & Health Physics

W. R. Schultz, Assistant General Manager
Technical Services

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Attachment

MINUTES OF THE RADIOACTIVE MATERIALS

CONTAMINATION CONTROL STEERING COMMITTEE

January 15, 1980

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INTERDEPARTMENTAL CORRESPONDENCE

TO: Listed Distribution

DATE: January 17, 1980
FROM DEPT: 923
CODE NO: GAT-923-80-17c
REFERENCE:

DEPT:
LOCATION:

SUBJECT: MINUTES OF THIRD SPECIAL MEETING - JANUARY 15, 1980

PRESENT:	C. P. Blackledge	W. M. Reffit
	R. W. Brown	W. G. Russell
	V. S. Emler	W. R. Schultz
	D. B. Jones	C. N. Spradlin
	C. A. Mentges	J. L. Yocum

The meeting was opened at 11:00 a.m. by Mr. W. R. Schultz.

Old Business

1) Mr. C. P. Blackledge reported that both representatives of both unions had received copies of the X-326 monitoring data which were included in the Industrial Hygiene and Health Physics X-326 contamination status report (GAT-923-79-473c).

2) Committee members were instructed to inform their respective subcommittee representatives to strive for completion of their work by January 30, 1980 as scheduled.

3) Mr. C. A. Mentges and Mr. W. M. Reffit presented a status report of decontamination activities in X-326. A copy of their report has been attached for reference. Mrs. C. N. Spradlin presented a color-keyed map which depicted the contamination status on the cell floor. A similar map will be maintained in ACR V for reference by any concerned employees. It was agreed that the map would be color-coded to designate areas with a contamination index of less than 10, a contamination index of 10 to 75, and a contamination index greater than 75.

4) Mr. C. A. Mentges and Mr. W. M. Reffit presented the second draft of the decontamination plan for X-326. After detailed discussions, it was agreed that the plan would be expanded to include methods of decontamination, procedures for disposal of cleaning solutions, and a schedule for activities.

5) Review of the radioactive contamination control problem lists has been postponed pending completion of the X-326 decontamination plans.

6) Discussion of Mr. J. L. Yocum's recommendation for involving OCAW personnel in the development of the decontamination plan for X-326 has been postponed.

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R. D. Jackson

The next regular meeting of the Radioactive Materials Contamination Control Steering Committee will be held in the Management Conference Room on January 30, 1980 at 11:00 a.m.

C. P. Blackledge, Jr., Supervisor
Industrial Hygiene & Health Physics

W. R. Schultz, Assistant General Manager
Technical Services

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INTERDEPARTMENTAL CORRESPONDENCE

TO: Listed Distribution

DEPT:

LOCATION:

DATE: January 17, 1980

FROM DEPT: 923

CODE NO: GAT-923-80-15c ✓

REFERENCE:

SUBJECT: CASCADE MAINTENANCE PROCEDURES - OCAW COMPLAINTS

At the weekly meeting held with OCAW Shift Safety Representatives, it was identified that some of the procedures set forth in E. F. Marsh's letter of October 26, 1978 were not being followed.

a) Barricades are not being placed around areas where cascade equipment was being removed. Warning signs are not being positioned.

b) Removed process components are not being covered prior to moving the equipment from the area.

c) Decontamination activities are not always conducted in the sequence identified.

We recommend that the following actions be taken:

a) Identify problems or lack of compliance with these procedures through communications with concerned employees.

b) Review existing procedures with all involved personnel.

c) Audits of compliance with these procedures should be conducted.

We request that the OCAW Shift Safety Representatives be informed of the actions that have been taken to identify and rectify any safety and health problems associated with the removal and handling of cascade equipment.

C P Blackledge Jr.

C. P. Blackledge, Jr., Supervisor
Industrial Hygiene & Health Physics

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C. A. Mentges
C. N. Spradlin
J. P. Spriggs

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INTERDEPARTMENTAL CORRESPONDENCE

TO: Listed Distribution

DEPT:
LOCATION:

DATE: January 17, 1980
FROM DEPT: 923
CODE NO: GAT-923-80-14c ✓
REFERENCE:

SUBJECT: OCAW COMPLAINTS

At the weekly meeting held with OCAW Shift Safety Representatives, the following items were identified as warranting further investigation by our department.

Item	Responsible	Report Due
Visible contamination (X-33-8-5: Col. R-16)	C. N. Spradlin	1/21/80
Placement of new hand counters	J. R. Ortman	1/21/80
Use of new β-γ Survey Meters	J. R. Ortman	1/21/80
Evaluation of Procedures for removing filters from vacuums used for seal changes, etc.	H. R. Giorgio C. N. Spradlin	1/30/80

C P Blackledge Jr.

C. P. Blackledge, Jr., Supervisor
Industrial Hygiene & Health Physics

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Distribution
H. R. Giorgio
J. R. Ortman
C. N. Spradlin

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R. D. Jackson

INTERDEPARTMENTAL CORRESPONDENCE

TO: J. L. Yocum, Manager
Industrial Relations Division
DEPT: 201
LOCATION: X-100 Building

DATE: January 15, 1980
FROM DEPT: 923
CODE NO: GAT-923-80-11c
REFERENCE:

SUBJECT: ARBITRATION AWARD - GENERAL GRIEVANCE #18-75

After reviewing the approved recreational activities listed in your letter of January 8, 1980, we recommend that at least two of the approved sites be dropped because employees will be exposed to recognized occupational health hazards.

X-330 Cell Floor - High noise level - Mandatory Hearing Protection Area
- Hot environments
- Potential radioactive contamination (depending upon site of maintenance activities and associated barriers)

X-333 Cell Floor - High noise level - Mandatory Hearing Protection Area
- Hot environment
- Potential radioactive contamination (depending upon site of maintenance activities and associated barriers)

We cannot recommend the approval of recreational activities in areas where participating employees would be exposed to recognized, occupational health hazards.

Within the past several years, the Safety Department conducted an evaluation of hazards associated with recreational activities in X-700. We recommend that this study be updated as necessary and appropriate action be taken. We know of several operations which require barriers to be established in the north-end of the Chemical Cleaning side of the building to keep unauthorized personnel from entering the area without approved personnel protective equipment. During these operations, recreational activities could not be permitted in the area.

Furthermore, any employee bringing his/her own recreational equipment should be cautioned against storing or using this equipment in potentially radioactively contaminated areas. Otherwise, it will be necessary to monitor the items for radioactive contamination periodically and prior to removal from plantsite.

APPROVED FOR RELEASE BY:

R. D. Jackson

C P Blackledge Jr.

C. P. Blackledge, Jr., Supervisor
Industrial Hygiene & Health Physics

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cy V. S. Emler
J. P. Spriggs

MINUTES OF THE RADIOACTIVE MATERIALS

CONTAMINATION CONTROL STEERING COMMITTEE

January 3, 1980

DISTRIBUTION

C. P. Blackledge	C. A. Mentges
R. W. Brown	W. G. Russell
V. S. Emler	W. R. Schultz
D. B. Jones	J. L. Yocum

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R. D. Jackson

INTERDEPARTMENTAL CORRESPONDENCE

TO: Listed Distribution

DEPT:

LOCATION:

DATE: January 8, 1980
FROM DEPT: 923
CODE NO: GAT-923-80-6c
REFERENCE:

SUBJECT: MINUTES OF SECOND SPECIAL MEETING - JANUARY 3, 1980

PRESENT:

C. P. Blackledge	C. A. Mentges
R. W. Brown	W. R. Schultz
V. S. Emler	J. L. Yocum

The meeting was opened at 3:07 p.m. by Mr. W. R. Schultz.

Old Business

1. The minutes and discussions of the special December 26, 1979 meeting were reviewed with attendees.

   a. On January 3, 1980, C. P. Blackledge and C. N. Spradlin met with J. L. Yocum, W. M. Reffit, X. S. Maroudis, and C. R. Keen to review the X-326 monitoring data prior to distribution to G. K. Sleighter. The union will be receiving copies of the tables of data which were included in the Industrial Hygiene and Health Physics X-326 contamination status report (GAT-923-79-473c). The data will be discussed with representatives of both unions prior to distribution.

   b. Mr. C. A. Mentges submitted the preliminary plans for decontamination of the X-326 Building. The plans were briefly reviewed with comments focusing upon the need for a dedicated decontamination crew. It was determined that a minimum crew of six Chemical Operators would remain assigned to the responsibility of decontaminating X-326 and decontaminating following routine and special maintenance activities.

      J. L. Yocum and C. A. Mentges were assigned the responsibility of reviewing problems associated with assigning a dedicated work force to decontaminate the building. Their findings and recommendations will be presented at the next scheduled, special meeting of the Committee to be held on January 15.

      Mr. Schultz requested that each member of the Committee review the decontamination plan and submit comments to C. A. Mentges. The decontamination plan will be revised to reflect the meeting discussions and comments and will be resubmitted at the next special meeting scheduled for January 15.

2. Assignments for the three subcommittees have been made as follows:

Subcommittee Charter	Committee Members
a. To review all existing policies, documents, and procedures concerning contamination control.	C. N. Spradlin (Chairperson) J. F. Wettstein P. S. Burleson
b. To review actual work and administrative practices that are currently in effect in the area of contamination control.	J. P. Vournazos (Chairperson) J. G. Grose
c. To define the technical facets involved with the Contamination Control Program.	H. R. Giorgio (Chairperson) B. W. Short J. L. Taylor

3. Review of the radioactive contamination control problem lists has been postponed pending completion of the X-326 decontamination plans.

New Business

1. Mr. J. L. Yocum recommended that steps be taken as soon as possible to involve OCAW personnel in the development of the decontamination plan for X-326 and in the development and implementation of contamination control procedures. This recommendation will be discussed at the next special meeting scheduled for January 15.

2. It is requested that Mr. W. M. Reffit submit a progress report on the X-326 decontamination effort at each Committee Meeting.

A special meeting of the Radioactive Materials Contamination Control Steering Committee will be held in the Management Conference Room on January 15, 1980 at 11:00 a.m. to continue a review of the decontamination plans for X-326.

The next regular meeting of the Radioactive Materials Contamination Control Steering Committee will be held in the Management Conference Room on January 30, 1980 at 11:00 a.m.

C P Blackledge Jr

C. P. Blackledge, Jr., Supervisor
Industrial Hygiene & Health Physics

W. R. Schultz, Assistant General Manager
Technical Services

CPB:mjc

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BY R. D. Jackson

INTERDEPARTMENTAL CORRESPONDENCE

TO: Listed Distribution

DEPT:

LOCATION:

DATE: May 19, 1981

FROM DEPT: 923

CODE NO: GAT-923-81-97

REFERENCE:

SUBJECT: OFF-PLANT SHIPMENT OF CONTAMINATED SURPLUS AND SALVAGE EQUIPMENT

Due to the lack of adequate procedures addressing radiation survey requirements for items to be sold to the general public, or for items scheduled for off-plant shipment, all radioactive contamination surveys must be approved by H. R. Giorgio, A. H. Jefferies, and C. P. Blackledge prior to release or tagging by our department. Department 923 will continue to develop procedures to insure adequate monitoring of off-plant shipments. After these procedures are developed, thorough training of all surveyors will be conducted.

A. H. Jefferies, Health Physicist
Industrial Hygiene & Health Physics

C. P. Blackledge, Jr., Supervisor
Industrial Hygiene & Health Physics

AHJ:mjc

Distribution
D-923 Personnel
V. S. Emler
E. C. Gearhart
R. T. Glass
W. D. Hartley
W. D. Netzer
J. J. Taylor

APPROVED FOR RELEASE BY:

R. D. Jackson

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REQUEST NUMBER[10520]
(Assigned by USEC)

USEC/Department of Energy Information Request Form

TO BE COMPLETED BY DOE:

REQUEST DATE: 1/10/00

NAME OF DOE REQUESTER: Brent Dellinger / Mario V. #176,204,345

NATURE OF REQUEST: ☐ View Document/File and/or ☐ Copy Document/File

DESCRIPTION OF DOCUMENT/FILE:

Minutes Contamination Ltr Steering Committee 2-18-80
Off Plant Shipment Contaminated Surplus Equipment 5-19-81
Inspection Warehouse #9 Scrap Yard 5-27-81
OSHA Safety Complaints 1978-1980 { Gat-SE-9 6-9-78 }

TO BE COMPLETED BY USEC:

DOCUMENT(S) CREATED: ☐ Before July 1, 1993 and/or ☐ On or After July 1, 1993

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INTERDEPARTMENTAL CORRESPONDENCE

TO: R. T. Glass, Supervisor
Materials and Service
DEPT: 422
LOCATION: X-746 Building

DATE: May 27, 1981
FROM DEPT: 923
CODE NO: GAT-923-81-89
REFERENCE:

SUBJECT: INSPECTION - WAREHOUSE #9 AND CLEAN SCRAP YARD

On May 26, 1981, as a follow-up on the "drill press investigation", representatives of the Industrial Hygiene and Health Physics Department inspected both Warehouse #9 and the Clean Scrap Yard. The following problem areas and possible violations of procedures were noted.

1. Two unmarked process component items with visible uranium contamination were found in the clean scrap yard. These items were monitored and tagged with a radioactive contamination tag (T-130).

   Recommendations:

   a. Items should be removed from the yard, decontaminated, remonitored, and stored appropriately.

   b. Procedures controlling access to the yard should be reviewed for possible deficiencies.

2. A four-door pickup truck which was identified as contaminated (tag T-130) was parked in the clean scrap yard.

   Recommendation:

   a. Truck should be removed from the yard and stored in an appropriate area for radioactively contaminated equipment.

3. Several items in the clean scrap yard were marked with green paint (Freon pipe and valve component) which is used by Shops Maintenance to identify an item as radioactively contaminated.

   Recommendation:

   a. Evaluate use of paint as contamination status identifier in controlling access to the clean scrap yard.

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R. D. Jackson

4. Three transformers positioned along the south fence of the clean scrap yard had a yellow barrier tape positioned around them indicating "men working overhead".

   Recommendation:

   a. Consult with Safety concerning use of appropriate barriers.

5. One section of Warehouse #9 has been posted as a contaminated equipment area.

   Recommendation:

   a. Since the public is permitted to inspect items in the building before and after bids, radioactively contaminated items should not be stored in the warehouse, where access can not be controlled. All radioactively contaminated materials should be stored in a limited access area. This would also prevent the inadvertent mixing of contaminated and uncontaminated materials.

6. Boxes of new notebooks and other materials were stored in the section of Warehouse #9 posted as a contaminated area.

   Recommendation:

   a. New or uncontaminated materials should not be stored in an area posted as contaminated.

7. Several radiation detection instruments stored in a bin in Warehouse #9 had radiation sources attached to the instrument cases.

   Recommendation:

   a. All radiation detection instruments should be inspected and radiation sources should be removed and returned to the Industrial Hygiene and Health Physics Department.

APPROVED FOR RELEASE BY:

R. D. Jackson

8. A spot audit of health physics monitoring of several pieces of material and equipment which were previously monitored and tagged as uncontaminated revealed that more thorough monitoring is required.

   Recommendations:

   a. Items scheduled for future sales or off-plant shipment (sold items) be remonitored for contamination levels.

   b. The health physics staff should be provided with the history of the item (location, use, using department, known contamination status, status of surface - been repainted, plated, etc.) prior to monitoring.

   c. Potentially contaminated items should be thoroughly cleaned and degreased prior to monitoring. Oily or dirty surfaces prevent accurate monitoring.

   d. Potentially contaminated equipment will have to be disassembled to permit monitoring of inaccessible surfaces.

In order to determine the nature of our scrap/salvage/sale material control program in achieving compliance with ANSI N13.12, we recommend that a meeting be scheduled with appropriate personnel to review our current procedures.

S. J. Grooms

S. J. Grooms, Environmental Surveyor
Industrial Hygiene and Health Physics

Allen H. Jefferies

A. H. Jefferies, Health Physicist
Industrial Hygiene and Health Physics

C P Blackledge Jr

C. P. Blackledge, Jr., Supervisor
Industrial Hygiene and Health Physics

CPB:cdb

cy R. E. Dever
V. S. Emler
W. D. Netzer
C. N. Spradlin
G. McNamer

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R. D. Jackson

GAT-SE-9

RADIOLOGICAL EFFLUENT HISTORY OF THE PORTSMOUTH GASEOUS DIFFUSION PLANT 1955 - 1977

By

B. J. Rumble
Environmental Control Department
Technical Services Division

June 9, 1978

Distribution

Internal

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APPROVED FOR RELEASE BY:
M. M. Earnhardt

ABSTRACT

This report is an update of the previous radiological effluent history,[1] issued in 1976. Tabulations of all accumulated radiological data are presented for each airborne and waterborne effluent point through 1977. Also included are figures indicating the trends in alpha, beta-gamma, and total radioactivity. Uranium lost to airborne and waterborne effluent points has increased significantly during the years 1975 through 1977 over previous years. A trend towards higher uranium daughter beta-gamma activity has been experienced from 1973 through 1977. A spike of technetium beta-gamma activity is noted in 1975, and most of the total radioactivity in 1975 through 1977 was contributed by technetium.

INTRODUCTION

Due to the complexity of the quarterly and annual environmental reports, organization of past radiological effluent data is necessary to provide easy reference and to allow detection of any unusual trends. Previous work[1], performed in 1976, compiled all annual radiological data for each effluent point starting in 1955.

DISCUSSION

Data used in the radiological effluent history were taken from the annual reports on radioactive effluents.[2, 3, 4, 5, 6, 7, 8] Only sparse radiological data were accumulated before 1968, but after that date, measurements were taken more frequently and more precise laboratory equipment was used. The radionuclides known to be present on plantsite in any substantive amount through 1977 were ^{234}U, ^{235}U, ^{236}U, ^{238}U, ^{234}Th, ^{234m}Pa and ^{99}Tc. Technetium, a fission product, was detected for the first time in the spring of 1975. Previous to 1976, all uranium daughter activity was attributed to ^{234}Th, but ^{234}Th decays to ^{234m}Pa which also decays immediately by beta emission. Therefore, half of the daughter beta activity can be attributed to ^{234}Th, and half to ^{234m}Pa. In this report, the correction has been applied to data reported previous to 1976.

Presently, an alpha-beta proportional counter is used to determine the radioactive concentration due to uranium and uranium daughters, thorium and protactinium, through their respective associated particles, alpha and beta. Another method of determining the activity due to uranium daughters is by measuring the associated gamma radiation by gamma spectrometry. This is a highly reliable method with a possible ±5% error.[9] The alpha-beta proportional counter is also used to determine the radioactivity attributable to technetium.[10]

Figures 1 through 5 indicate the trends in alpha, beta, and total radioactivity. Figure 1 shows an increase in uranium lost from airborne effluent points (in particular, the top and side purges) from 1975 through 1977. Figure 2 displays the somewhat irregular loss of uranium from the liquid effluent points from 1955 to 1977. Nearly all of the uranium lost in liquid effluents comes from the East Drainage Ditch via the X-701-B Holding Pond. Figure 3, "Uranium Daughters Lost to Liquid Effluent Points," also shows irregularly shaped curves with a small spike at 1974. At least part of the loss attributed to these isotopes for 1974 may have been due to technetium. Specific nuclide analyses were not performed for technetium until 1975; prior to that date, all beta-gamma radioactivity was attributed to uranium daughters. Note that the reported uranium daughter loss dropped some in 1975 after the technetium analyses were initiated. Again, nearly all of the uranium daughter loss in liquid effluents is from the East Drainage Ditch via the X-701-B Holding Pond.

Figure 4 displays both uranium and daughter radioactivity in both liquid and gaseous effluents. Notice that this curve is very similar to Figure 3 since uranium daughters contribute most of the total activity. To demonstrate the full effect of the 1975 through 1977 technetium loss, Figure 5, "Total Radioactivity in all Effluent Points (Including Technetium)" was constructed. A comparison of Figures 4 and 5 shows that technetium contributed much more to the total activity in 1975 through 1977 than did uranium and its daughters.

Data for Figures 1, 2, and 3 are found in Table I which contains effluent losses in grams as well as curies; data for Figure 4 are tabulated in Table IV under the column Total Curies - Water and Air. Tables II and III show the annual total of loss for each element at each effluent point in both grams and curies. Where data are missing, either the value could not be determined due to some mechanical failure or the value was zero or negligible.

CONCLUSIONS

The compilation of this information should prove to be helpful for future reference, and irregularities can be detected easily. One such irregularity is the sharp rise in beta-gamma radioactivity which was attributed to uranium daughters in 1974, but it became evident by 1975 that nearly all of the beta-gamma activity was due to technetium. The data also show the increase in radioactive effluents from the purge cascades as a result of the CIP/CUP effort.

RADIOLOGICAL EFFLUENT HISTORY

TABLE I. YEARLY TOTALS FOR AIR, WATER, AND BOTH

GAT-SE-9

A-946(10-67) REV.

	GRAMS									CURIES								
	AIR			WATER			BOTH AIR AND WATER			AIR			WATER			BOTH AIR AND WATER		
Year	Uranium	Uranium Daughters	Technetium	Uranium	Uranium Daughters	Technetium	Uranium	Uranium Daughters	Technetium	Uranium	Uranium Daughters	Technetium	Uranium	Uranium Daughters	Technetium	Uranium	Uranium Daughters	Technetium
1955				$9.474x10^{3}$	$3.052x10^{-7}$		$9.474x10^{3}$	$3.052x10^{-7}$					$2.106x10^{-2}$	$1.416x10^{-2}$		$2.106x10^{-2}$	$1.416x10^{-2}$	
1956				$8.601x10^{4}$	$2.401x10^{-6}$		$8.601x10^{4}$	$2.401x10^{-6}$					$1.385x10^{-1}$	$1.206x10^{-1}$		$1.385x10^{-1}$	$1.206x10^{-1}$	
1957				$1.519x10^{5}$	$1.470x10^{-5}$		$1.519x10^{5}$	$1.470x10^{-5}$					$1.594x10^{-1}$	$6.822x10^{-1}$		$1.594x10^{-1}$	$6.822x10^{-1}$	
1958				$3.571x10^{5}$	$2.636x10^{-5}$		$3.571x10^{5}$	$2.636x10^{-5}$					$3.528x10^{-1}$	1.223		$3.528x10^{-1}$	1.223	
1959				$3.652x10^{5}$	$3.066x10^{-5}$		$3.652x10^{5}$	$3.066x10^{-5}$					$5.853x10^{-1}$	1.423		$5.853x10^{-1}$	1.423	
1960	$2.546x10^{2}$			$9.658x10^{4}$	$5.005x10^{-6}$		$9.683x10^{4}$	$5.005x10^{-6}$		$8.412x10^{-3}$			$1.587x10^{-1}$	$2.322x10^{-1}$		$1.671x10^{-1}$	$2.322x10^{-1}$	
1961	$1.037x10^{2}$			$5.708x10^{4}$	$4.397x10^{-6}$		$5.718x10^{4}$	$4.397x10^{-6}$		$3.428x10^{-2}$			$5.640x10^{-2}$	$2.040x10^{-1}$		$9.068x10^{-2}$	$2.040x10^{-1}$	
1962	$1.033x10^{2}$			$1.062x10^{5}$	$1.436x10^{-5}$		$1.063x10^{5}$	$1.436x10^{-5}$		$3.415x10^{-2}$			$1.682x10^{-1}$	$6.666x10^{-1}$		$2.023x10^{-1}$	$6.666x10^{-1}$	
1963	$8.977x10^{2}$			$9.761x10^{4}$	$8.715x10^{-6}$		$9.851x10^{4}$	$8.715x10^{-6}$		$1.593x10^{-2}$			$1.228x10^{-1}$	$4.044x10^{-1}$		$1.387x10^{-1}$	$4.044x10^{-1}$	
1964	$8.663x10^{2}$			$6.797x10^{4}$	$2.117x10^{-6}$		$6.884x10^{4}$	$2.117x10^{-6}$		$1.756x10^{-2}$			$7.302x10^{-2}$	$9.824x10^{-2}$		$9.058x10^{-2}$	$9.824x10^{-2}$	
1965	$1.423x10^{3}$			$1.144x10^{5}$	$1.933x10^{-5}$		$1.158x10^{5}$	$1.933x10^{-5}$		$2.146x10^{-2}$			$7.118x10^{-1}$	$8.972x10^{-1}$		$7.333x10^{-1}$	$8.972x10^{-1}$	
1966	$2.400x10^{3}$			$5.401x10^{4}$	$2.352x10^{-6}$		$5.641x10^{4}$	$2.352x10^{-6}$		$1.910x10^{-2}$			$1.043x10^{-1}$	$1.091x10^{-1}$		$1.234x10^{-1}$	$1.091x10^{-1}$	
1967	$3.802x10^{3}$	$1.409x10^{-8}$		$7.592x10^{4}$	$9.185x10^{-6}$		$7.972x10^{4}$	$9.200x10^{-6}$		$1.964x10^{-2}$	$6.541x10^{-4}$		$7.603x10^{-2}$	$4.261x10^{-1}$		$9.567x10^{-2}$	$4.268x10^{-1}$	
1968	$6.564x10^{3}$	$7.545x10^{-9}$		$5.827x10^{5}$	$1.305x10^{-5}$		$5.893x10^{5}$	$1.306x10^{-5}$		$1.635x10^{-2}$	$3.500x10^{-4}$		$1.887x10^{-2}$	$6.055x10^{-1}$		$3.522x10^{-2}$	$6.058x10^{-1}$	
1969	$1.500x10^{3}$	$8.235x10^{-8}$		$8.224x10^{4}$	$1.211x10^{-5}$		$8.374x10^{4}$	$1.219x10^{-5}$		$1.370x10^{-2}$	$3.820x10^{-3}$		$1.333x10^{-1}$	$5.619x10^{-1}$		$1.470x10^{-1}$	$5.657x10^{-1}$	
1970	$3.044x10^{3}$	$4.010x10^{-8}$		$1.189x10^{5}$	$1.889x10^{-5}$		$1.219x10^{5}$	$1.893x10^{-5}$		$1.947x10^{-2}$	$1.861x10^{-3}$		$2.054x10^{-1}$	$8.765x10^{-1}$		$2.249x10^{-1}$	$8.784x10^{-1}$	
1971	$9.077x10^{3}$	----		$1.642x10^{5}$	$8.235x10^{-6}$		$1.733x10^{5}$	$8.235x10^{-6}$		$7.445x10^{-3}$	----		$2.448x10^{-1}$	$3.821x10^{-1}$		$2.522x10^{-2}$	$3.821x10^{-1}$	
1972	$7.896x10^{3}$	----		$7.315x10^{4}$	$8.100x10^{-6}$		$8.105x10^{4}$	$8.100x10^{-6}$		$3.875x10^{-3}$	----		$3.386x10^{-2}$	$3.758x10^{-1}$		$3.773x10^{-2}$	$3.758x10^{-1}$	
1973	$7.033x10^{3}$	$2.276x10^{-8}$		$9.675x10^{4}$	$2.612x10^{-5}$		$1.038x10^{5}$	$2.615x10^{-5}$		$4.300x10^{-2}$	$1.056x10^{-3}$		$1.650x10^{-1}$	1.212		$2.080x10^{-1}$	1.213	
1974	$1.394x10^{4}$	$4.179x10^{-9}$		$1.378x10^{5}$	$9.285x10^{-5}$		$1.517x10^{5}$	$9.285x10^{-5}$		$2.284x10^{-2}$	$1.939x10^{-4}$		$3.026x10^{-1}$	4.308		$3.254x10^{-1}$	4.308	
1975	$1.994x10^{4}$	----		$3.509x10^{5}$	$6.605x10^{-5}$	$4.508x10^{3}$	$3.708x10^{5}$	$3.302x10^{-5}$	$4.508x10^{3}$	$7.468x10^{-2}$	----		1.099	3.065	$7.712x10^{1}$	1.174	3.065	$7.712x10^{1}$
1976	$1.531x10^{4}$	$2.267x10^{-1}$	$1.732x10^{-3}$	$4.258x10^{5}$	$7.982x10^{-5}$	$8.978x10^{2}$	$4.411x10^{5}$	$7.982x10^{-5}$	$8.978x10^{2}$	$1.066x10^{-1}$	$1.052x10^{-6}$	$2.963x10^{-5}$	$9.673x10^{-1}$	3.703	$1.536x10^{1}$	1.074	3.703	$1.536x10^{1}$
1977	$1.561x10^{4}$	$1.976x10^{-6}$	$2.631x10^{-2}$	$6.588x10^{5}$	$6.118x10^{-5}$	$1.813x10^{3}$	$6.744x10^{5}$	$6.316x10^{-5}$	$2.076x10^{3}$	$1.070x10^{-1}$	$9.169x10^{-2}$	4.500	1.802	2.839	$3.102x10^{1}$	1.909	2.931	$3.552x10^{1}$

CALCULATION SHEET

RADIOLOGICAL EFFLUENT HISTORY

TABLE II. YEARLY TOTALS FOR EACH EFFLUENT POINT (AIR)

GAT-SE-9

A-666(10-67) REV.

	X-326 Purge Vents (001)							X-330 Cold Recovery (003)							X-333 Cold Recovery (004)	
	Uranium		Uranium Daughters		Technetium			Uranium		Uranium Daughters		Technetium			Uranium	
Year	Grams	Curies	Grams	Curies	Grams	Curies		Grams	Curies	Grams	Curies	Grams	Curies		Grams	Curies
1960	2.546×10^{2}	8.412×10^{-3}														
1961	1.037×10^{2}	3.428×10^{-2}														
1962	1.033×10^{2}	3.415×10^{-2}														
1963	8.977×10^{2}	1.593×10^{-2}														
1964	8.663×10^{2}	1.756×10^{-2}														
1965	1.423×10^{3}	2.146×10^{-2}														
1966	1.055×10^{3}	1.862×10^{-2}						1.345×10^{3}	4.777×10^{-4}							
1967	6.121×10^{2}	1.336×10^{-2}						3.030×10^{3}	1.080×10^{-3}							
1968	5.650×10^{2}	1.218×10^{-2}						5.828×10^{3}	2.052×10^{-3}							
1969	5.650×10^{2}	1.064×10^{-2}						6.873×10^{2}	6.801×10^{-4}						1.778×10^{2}	5.930×10^{-5}
1970	6.529×10^{2}	1.409×10^{-2}						2.059×10^{3}	2.003×10^{-3}						1.925×10^{1}	1.333×10^{-5}
1971	1.428×10^{3}	1.826×10^{-3}						7.080×10^{3}	5.056×10^{-3}						1.910×10^{1}	6.657×10^{-6}
1972	8.430×10^{2}	1.091×10^{-3}						6.932×10^{3}	2.604×10^{-3}						3.176×10^{1}	1.681×10^{-5}
1973	6.366×10^{2}	3.109×10^{-2}						6.252×10^{3}	8.503×10^{-3}						---	---
1974	3.883×10^{2}	1.152×10^{-2}						1.355×10^{4}	1.113×10^{-2}						2.307×10^{2}	1.618×10^{-4}
1975	1.766×10^{3}	6.303×10^{-2}						1.780×10^{4}	1.141×10^{-2}						---	---
1976	2.787×10^{3}	9.977×10^{-2}						1.067×10^{4}	6.382×10^{-3}						---	---
1977	3.073×10^{3}	9.875×10^{-2}	1.721×10^{-6}	7.984×10^{-2}	1.842×10^{2}	3.151		1.246×10^{4}	7.065×10^{-3}	2.547×10^{-7}	1.182×10^{-2}	7.874×10^{1}	1.347		---	---

CALCULATION SHEET

RADIOLOGICAL EFFLUENT HISTORY

TABLE II. YEARLY TOTALS FOR EACH EFFLUENT POINT (AIR) (CONT'D)

GAT-SE-9

A-868(10-67) REV.

Year	X-746 Exhaust Vent (005) Uranium Grams	X-746 Exhaust Vent (005) Uranium Curies	X-746 Exhaust Vent (005) Daughters Uranium Grams	X-746 Exhaust Vent (005) Daughters Curies	X-705 Gas Vent (006) Uranium Grams	X-705 Gas Vent (006) Uranium Curies	X-744-G Oxide Sampling Facility (011) Uranium Grams	X-744-G Oxide Sampling Facility (011) Uranium Curies	X-744-G Oxide Sampling Facility (011) Daughters Uranium Grams	X-744-G Oxide Sampling Facility (011) Daughters Uranium Curies	X-744-G Oxide Sampling Facility (011) Technetium Grams	X-744-G Oxide Sampling Facility (011) Technetium Curies
1960												
1961												
1962												
1963												
1964												
1965												
1966												
1967	1.494×10^{2}	5.194×10^{-3}	2.819×10^{-6}	6.541×10^{-4}	1.080×10^{1}	1.082×10^{-5}						
1968	7.783×10^{1}	9.087×10^{-4}	1.509×10^{-6}	3.500×10^{-4}	9.275×10^{1}	1.214×10^{-3}						
1969	1.898×10^{2}	1.195×10^{-3}	1.647×10^{-7}	3.820×10^{-3}	5.824×10^{1}	1.181×10^{-3}						
1970	1.544×10^{2}	3.319×10^{-3}	8.020×10^{-8}	1.861×10^{-3}	---	---						
1971	4.624×10^{2}	4.648×10^{-4}	---	---	8.750×10^{1}	8.523×10^{-5}						
1972	1.020×10^{2}	1.734×10^{-4}	---	---	---	---						
1973	1.131×10^{2}	3.389×10^{-3}	4.552×10^{-8}	1.056×10^{-3}	---	---	---	---	2.763×10^{-10}	6.410×10^{-6}		
1974	5.230	1.947×10^{-4}	8.358×10^{-9}	1.939×10^{-4}	---	---	1.231	1.451×10^{-5}	6.207×10^{-10}	1.440×10^{-5}		
1975	---	---	---	---	1.475×10^{2}	7.992×10^{-5}	2.499	1.870×10^{-5}	3.418×10^{-10}	7.930×10^{-6}	5.009×10^{-4}	8.570×10^{-6}
1976	---	---	---	---	6.269×10^{1}	4.691×10^{-4}	1.982	1.489×10^{-5}	2.267×10^{-10}	1.052×10^{-6}	1.732×10^{-3}	2.963×10^{-5}
1977	---	---	---	---	6.977×10^{1}	1.015×10^{-3}	8.827	1.868×10^{-4}	6.901×10^{-10}	3.202×10^{-5}	1.190×10^{-1}	2.036×10^{-3}

CALCULATION SHEET

RADIOLOGICAL EFFLUENT HISTORY

TABLE III. YEARLY TOTALS FOR EACH EFFLUENT POINT (WATER)

Year	South Holding Pond (007) Uranium Grams	South Holding Pond (007) Uranium Curies	South Holding Pond (007) Daughters Grams	South Holding Pond (007) Daughters Curies	West Drainage Ditch (008) Uranium Grams	West Drainage Ditch (008) Uranium Curies	West Drainage Ditch (008) Daughters Grams	West Drainage Ditch (008) Daughters Curies	East Drainage Ditch (009) Uranium Grams	East Drainage Ditch (009) Uranium Curies	East Drainage Ditch (009) Daughters Grams	East Drainage Ditch (009) Daughters Curies	Technetium Grams	Technetium Curies
1955	1.062×10^{3}	1.714×10^{-3}	6.810×10^{-8}	3.160×10^{-3}	1.062×10^{3}	2.434×10^{-3}	4.375×10^{-6}	2.030×10^{-3}	7.350×10^{3}	1.691×10^{-2}	1.934×10^{-7}	8.974×10^{-3}		
1956	1.062×10^{3}	1.046×10^{-3}	2.543×10^{-7}	1.180×10^{-2}	6.480×10^{2}	1.471×10^{-3}	2.204×10^{-7}	1.023×10^{-2}	8.430×10^{4}	1.360×10^{-1}	2.125×10^{-6}	9.860×10^{-2}		
1957	2.605×10^{3}	7.678×10^{-3}	2.543×10^{-7}	1.180×10^{-2}	2.220×10^{3}	7.952×10^{-4}	3.493×10^{-7}	1.621×10^{-2}	1.370×10^{5}	1.332×10^{-1}	1.265×10^{-5}	5.870×10^{-1}		
1958	6.370×10^{3}	1.823×10^{-3}	2.015×10^{-7}	9.350×10^{-3}	8.180×10^{2}	8.110×10^{-4}	5.690×10^{-7}	2.641×10^{-2}	3.480×10^{5}	3.459×10^{-1}	2.500×10^{-5}	1.160		
1959	2.761×10^{3}	4.529×10^{-3}	2.414×10^{-7}	1.120×10^{-2}	1.929×10^{3}	1.924×10^{-3}	2.545×10^{-7}	1.181×10^{-2}	3.460×10^{5}	5.666×10^{-1}	2.952×10^{-5}	1.370		
1960	8.140×10^{2}	1.843×10^{-3}	1.832×10^{-7}	8.500×10^{-3}	1.416×10^{3}	2.279×10^{-3}	1.373×10^{-7}	6.370×10^{-3}	9.210×10^{4}	1.496×10^{-1}	4.310×10^{-6}	2.00×10^{-1}		
1961	7.970×10^{2}	7.779×10^{-4}	1.297×10^{-7}	6.020×10^{-3}	1.830×10^{3}	6.463×10^{-4}	1.754×10^{-7}	8.140×10^{-3}	5.250×10^{4}	5.417×10^{-2}	3.664×10^{-6}	1.70×10^{-1}		
1962	6.800×10^{2}	2.349×10^{-4}	2.136×10^{-7}	9.910×10^{-3}	4.744×10^{3}	4.682×10^{-3}	1.754×10^{-7}	8.140×10^{-3}	9.750×10^{4}	1.605×10^{-1}	1.336×10^{-5}	6.20×10^{-1}		
1963	5.910×10^{2}	5.837×10^{-4}	1.069×10^{-7}	4.960×10^{-3}	1.388×10^{3}	3.183×10^{-3}	1.069×10^{-7}	4.960×10^{-3}	9.000×10^{4}	9.676×10^{-2}	7.760×10^{-6}	3.60×10^{-1}		
1964	7.744×10^{2}	8.159×10^{-4}	1.069×10^{-7}	4.960×10^{-3}	2.767×10^{3}	3.431×10^{-3}	1.069×10^{-7}	4.960×10^{-3}	6.240×10^{4}	6.276×10^{-2}	1.745×10^{-6}	8.10×10^{-2}		
1965	6.440×10^{2}	2.291×10^{-4}	1.069×10^{-7}	4.960×10^{-3}	8.990×10^{2}	9.187×10^{-4}	1.069×10^{-7}	4.960×10^{-3}	1.100×10^{5}	7.028×10^{-1}	1.896×10^{-5}	8.80×10^{-1}		
1966	9.030×10^{2}	3.242×10^{-4}	1.069×10^{-7}	4.960×10^{-3}	1.316×10^{4}	1.282×10^{-2}	1.069×10^{-7}	4.960×10^{-3}	3.510×10^{4}	8.311×10^{-2}	1.853×10^{-6}	8.60×10^{-2}		
1967	1.151×10^{3}	1.155×10^{-3}	1.069×10^{-7}	4.960×10^{-3}	1.239×10^{3}	4.349×10^{-4}	1.069×10^{-7}	4.960×10^{-3}	7.270×10^{4}	7.364×10^{-2}	8.835×10^{-6}	4.10×10^{-1}		
1968	5.310×10^{2}	1.861×10^{-4}	1.069×10^{-7}	4.960×10^{-3}	1.267×10^{3}	4.279×10^{-4}	1.069×10^{-7}	4.960×10^{-3}	5.800×10^{5}	1.734×10^{-2}	1.271×10^{-5}	5.90×10^{-1}		
1969	4.430×10^{2}	4.419×10^{-4}	1.069×10^{-7}	4.960×10^{-3}	4.400×10^{3}	1.587×10^{-3}	2.748×10^{-7}	1.275×10^{-2}	7.580×10^{4}	1.297×10^{-1}	1.164×10^{-5}	5.40×10^{-1}		
1970	3.810×10^{3}	8.963×10^{-3}	2.965×10^{-7}	1.376×10^{-2}	8.900×10^{3}	2.086×10^{-2}	2.368×10^{-7}	1.099×10^{-2}	1.060×10^{5}	1.754×10^{-1}	1.832×10^{-5}	8.50×10^{-1}		
1971	6.711×10^{2}	5.622×10^{-4}	6.870×10^{-8}	3.188×10^{-3}	1.814×10^{3}	1.842×10^{-3}	7.535×10^{-8}	3.497×10^{-3}	1.510×10^{5}	2.339×10^{-1}	7.910×10^{-6}	3.671×10^{-1}		
1972	6.470×10^{2}	2.678×10^{-4}	4.653×10^{-8}	2.159×10^{-3}	1.420×10^{3}	5.146×10^{-4}	7.705×10^{-8}	3.574×10^{-3}	6.093×10^{4}	2.659×10^{-2}	7.910×10^{-6}	3.671×10^{-1}		
1973	1.909×10^{3}	5.423×10^{-3}	3.642×10^{-7}	1.690×10^{-2}	8.348×10^{2}	1.510×10^{-3}	1.754×10^{-7}	8.140×10^{-3}	9.108×10^{4}	1.476×10^{-1}	2.543×10^{-5}	1.180		
1974	1.402×10^{3}	2.938×10^{-3}	3.534×10^{-7}	1.640×10^{-2}	6.095×10^{2}	1.375×10^{-3}	1.407×10^{-7}	6.528×10^{-3}	1.325×10^{5}	2.903×10^{-1}	9.220×10^{-5}	4.277		
1975	7.304×10^{2}	2.492×10^{-3}	7.110×10^{-7}	3.299×10^{-2}	5.730×10^{2}	2.435×10^{-4}	5.600×10^{-7}	2.599×10^{-2}	3.409×10^{5}	1.074	6.336×10^{-5}	2.940	4.508×10^{3}	7.712×10^{1}
1976	6.267×10^{2}	1.916×10^{-3}	5.476×10^{-7}	2.541×10^{-2}	8.778×10^{2}	2.528×10^{-3}	1.080×10^{-6}	5.010×10^{-2}	3.839×10^{5}	8.175×10^{-1}	7.334×10^{-5}	3.403	8.978×10^{2}	1.536×10^{1}
1977	1.094×10^{3}	4.262×10^{-3}	7.039×10^{-7}	3.266×10^{-2}	8.710×10^{2}	5.264×10^{-3}	7.677×10^{-7}	3.562×10^{-2}	6.164×10^{5}	1.691	5.632×10^{-5}	2.613	1.813×10^{3}	3.102×10^{1}

CALCULATION SHEET

TABLE III. YEARLY TOTAL FOR EACH EFFLUENT POINT (WATER) (CONT'D)

Year	RCW Blowdown* (010) Uranium Grams	RCW Blowdown* (010) Uranium Curies	RCW Blowdown* (010) Uranium Daughters Grams	RCW Blowdown* (010) Uranium Daughters Curies	Laundry (011) Uranium Grams	Laundry (011) Uranium Curies	Sewage Plant Effluent Pipeline (012) Uranium Grams	Sewage Plant Effluent Pipeline (012) Uranium Curies	Sewage Plant Effluent Pipeline (012) Uranium Daughters Grams	Sewage Plant Effluent Pipeline (012) Uranium Daughters Curies	North Holding Pond (013) Uranium Grams	North Holding Pond (013) Uranium Curies	North Holding Pond (013) Uranium Daughters Grams	North Holding Pond (013) Uranium Daughters Curies
1957	1.004×10^{4}	1.768×10^{-2}	1.448×10^{-6}	6.721×10^{-2}										
1958	7.679×10^{3}	2.295×10^{-3}	5.960×10^{-7}	2.765×10^{-2}										
1959	1.449×10^{4}	1.230×10^{-2}	6.640×10^{-7}	2.988×10^{-2}										
1960	2.254×10^{3}	4.961×10^{-3}	3.741×10^{-7}	1.736×10^{-2}										
1961	1.957×10^{3}	8.014×10^{-4}	4.276×10^{-7}	1.984×10^{-2}										
1962	3.307×10^{3}	2.806×10^{-3}	6.145×10^{-7}	2.852×10^{-2}										
1963	5.635×10^{3}	2.231×10^{-2}	7.430×10^{-7}	3.447×10^{-2}										
1964	2.031×10^{3}	6.011×10^{-3}	1.576×10^{-7}	7.316×10^{-3}										
1965	2.849×10^{3}	7.862×10^{-3}	1.576×10^{-7}	7.316×10^{-3}										
1966	4.852×10^{3}	8.037×10^{-3}	2.849×10^{-7}	1.322×10^{-2}										
1967	8.258×10^{2}	8.008×10^{-4}	1.339×10^{-7}	6.216×10^{-3}										
1968	9.217×10^{2}	9.120×10^{-4}	1.193×10^{-7}	5.538×10^{-3}										
1969	1.600×10^{3}	1.606×10^{-3}	9.035×10^{-8}	4.192×10^{-3}										
1970	2.00×10^{2}	2.035×10^{-4}	3.847×10^{-8}	1.785×10^{-3}										
1971	1.903×10^{3}	2.468×10^{-3}	1.785×10^{-7}	8.284×10^{-3}		4.26×10^{2}	3.145×10^{-4}		8.40×10^{3}	5.744×10^{-3}				
1972	1.340×10^{3}	5.728×10^{-4}	6.465×10^{-8}	3.00×10^{-3}		4.10×10^{2}	1.753×10^{-4}		8.40×10^{3}	4.806×10^{-3}				
1973	1.102×10^{3}	3.748×10^{-3}	1.540×10^{-7}	7.149×10^{-3}		---	---		1.820×10^{3}	6.697×10^{-3}				
1974	1.525×10^{3}	1.777×10^{-3}	1.664×10^{-7}	7.722×10^{-3}					1.776×10^{3}	6.210×10^{-3}				
1975	4.081×10^{3}	3.720×10^{-3}	9.700×10^{-7}	4.500×10^{-2}					3.946×10^{3}	1.611×10^{-2}	3.483×10^{-7}	1.616×10^{-2}	6.341×10^{2}	2.248×10^{-7}	1.006×10^{-7}	4.668×10^{-3}
1976	1.459×10^{3}	3.484×10^{-3}	1.387×10^{-6}	6.434×10^{-2}					5.413×10^{3}	2.291×10^{-2}	1.083×10^{-6}	5.025×10^{-2}	3.354×10^{4}	1.190×10^{-1}	2.379×10^{-6}	1.104×10^{-1}
1977	1.951×10^{3}	6.157×10^{-3}	1.740×10^{-6}	8.072×10^{-2}					6.670×10^{3}	2.872×10^{-2}	8.925×10^{-7}	4.141×10^{-2}	3.182×10^{4}	6.715×10^{-2}	7.621×10^{-7}	3.536×10^{-2}

*Flow not determined for years 1957-1965, therefore, a flow of 1.24×10^{9} l/yr. or 900,000 gal/day was assumed. (9)

CALCULATION SHEET

Figure 1. URANIUM LOST TO AIRBORNE EFFLUENT POINTS

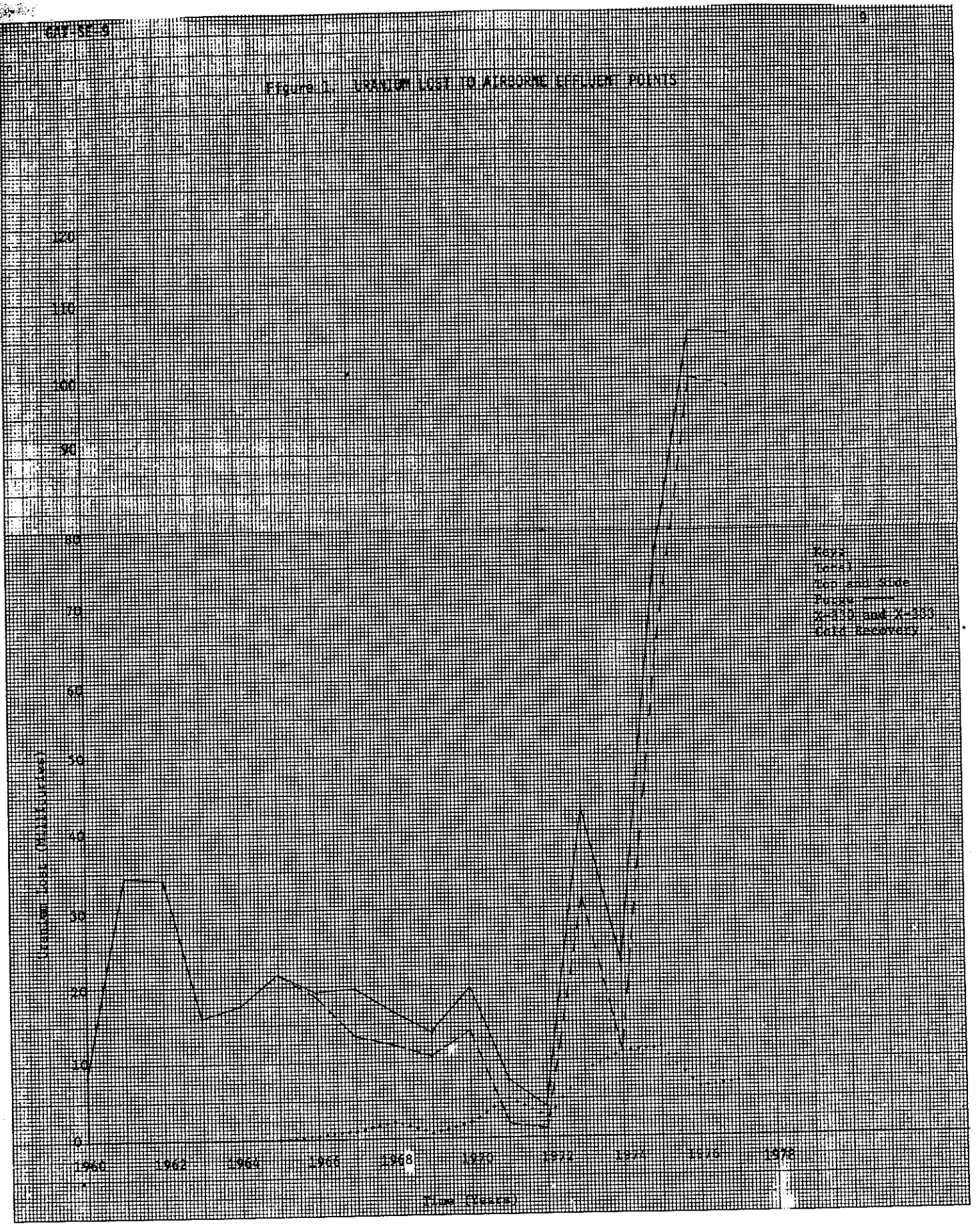


Figure 2. URANIUM LOST TO LIQUID EFFLUENT POINTS

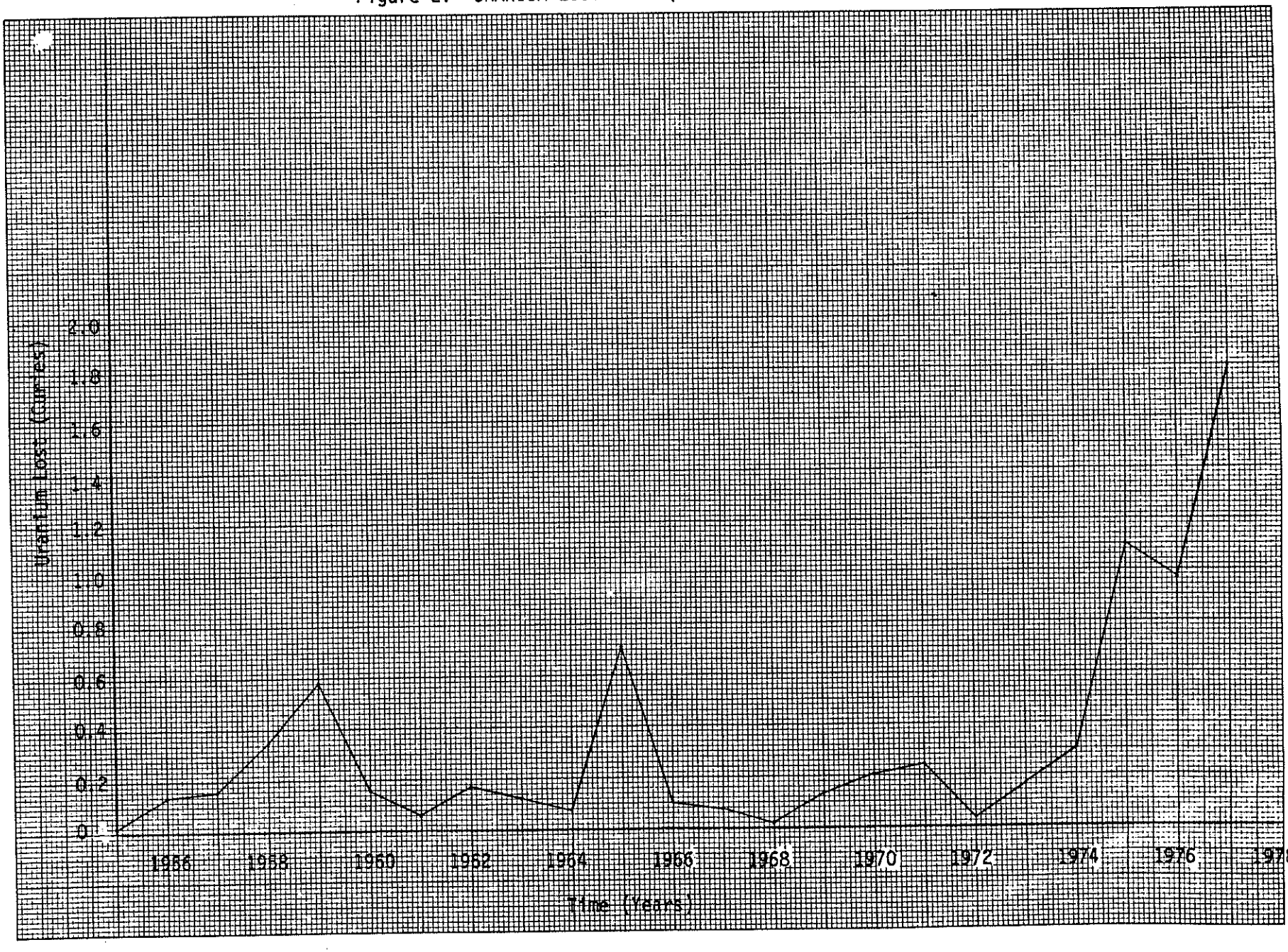
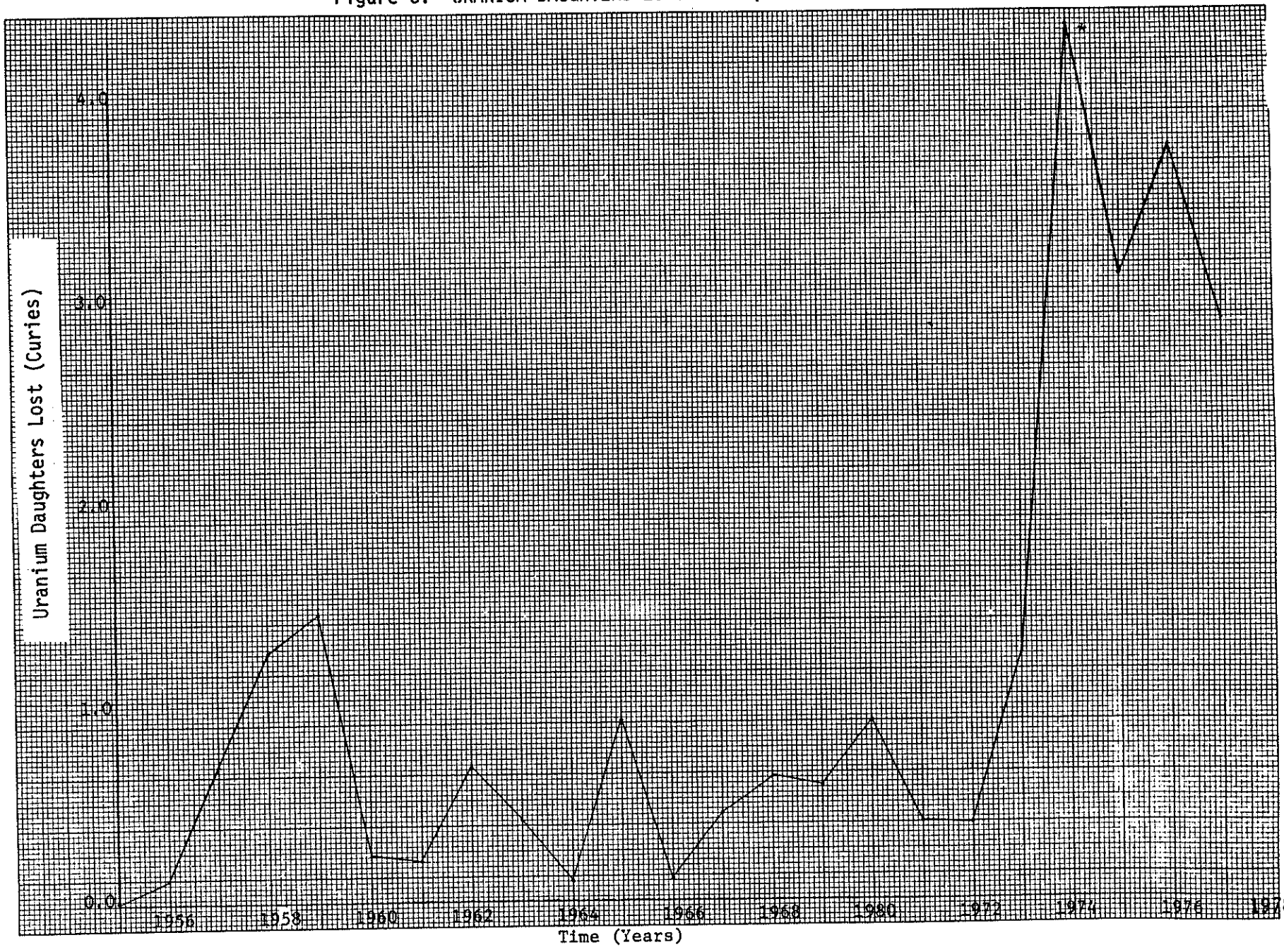


Figure 3. URANIUM DAUGHTERS LOST TO LIQUID EFFLUENTS



*Partially due to technetium

Figure 4. TOTAL RADIOACTIVITY IN ALL EFFLUENT POINTS (EXCEPT TECHNETIUM)

*Partially due to technetium

Figure 5. TOTAL RADIOACTIVITY IN ALL EFFLUENT POINTS (INCLUDING TECHNETIUM)

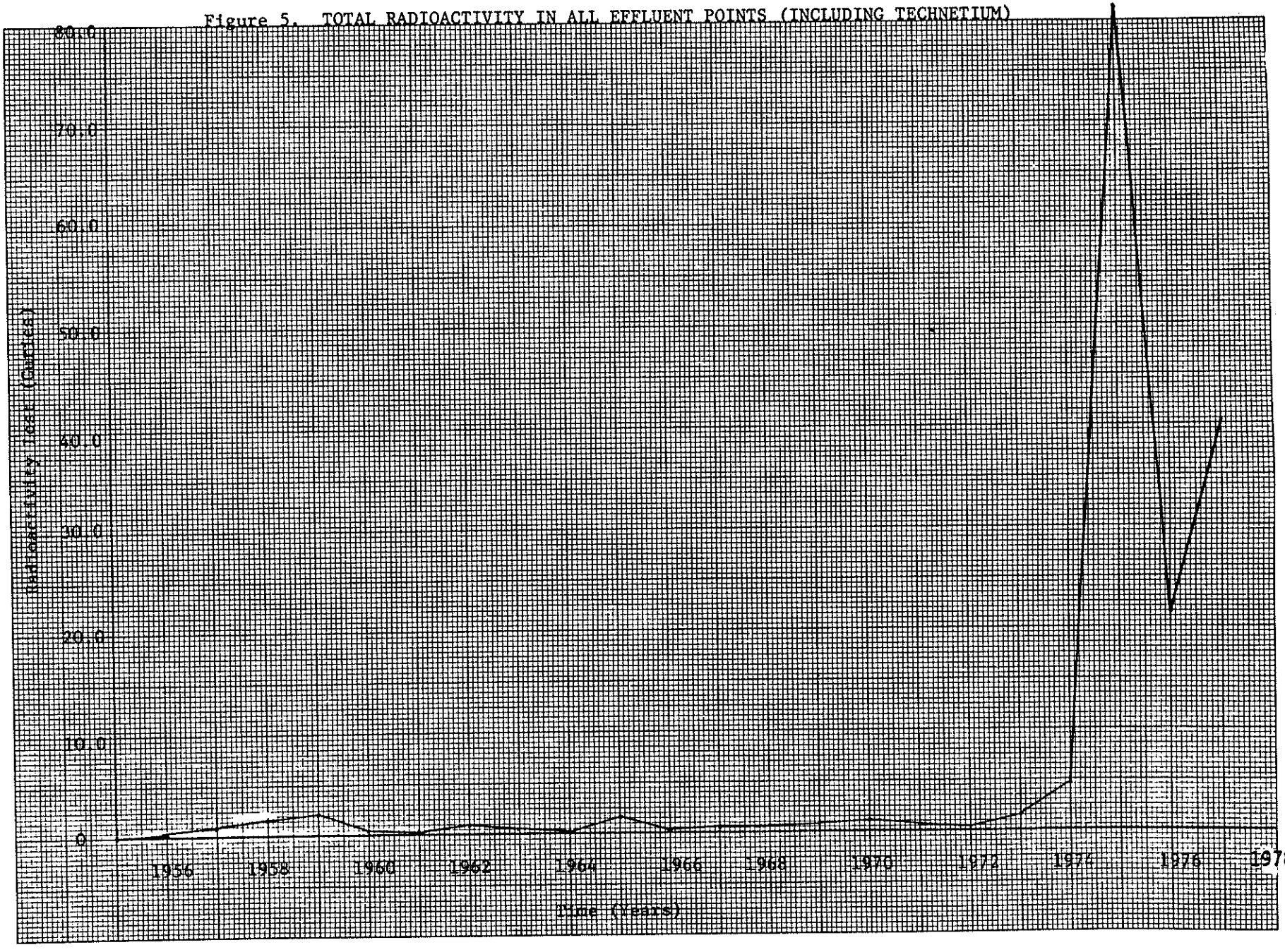


TABLE IV. YEARLY TOTALS OF RADIOACTIVITY IN AIR AND WATER

A-566(10-67) REV.

Year	Total Curies-Air	Total Curies-Water	Total Curies-Water And Air
1955	---	3.522×10^{-2}	3.522×10^{-2}
1956	---	2.591×10^{-1}	2.591×10^{-1}
1957	---	8.416×10^{-1}	8.416×10^{-1}
1958	---	1.576	1.576
1959	---	2.008	2.008
1960	8.412×10^{-3}	3.909×10^{-1}	3.993×10^{-1}
1961	3.428×10^{-2}	2.604×10^{-1}	2.947×10^{-1}
1962	3.415×10^{-2}	8.348×10^{-1}	8.689×10^{-1}
1963	1.593×10^{-2}	5.272×10^{-1}	5.431×10^{-1}
1964	1.756×10^{-2}	1.713×10^{-1}	1.889×10^{-1}
1965	2.146×10^{-2}	1.609	1.630
1966	1.910×10^{-2}	2.134×10^{-1}	2.325×10^{-1}
1967	2.029×10^{-2}	5.021×10^{-1}	5.224×10^{-1}
1968	1.670×10^{-2}	6.244×10^{-1}	6.411×10^{-1}
1969	1.752×10^{-2}	6.952×10^{-1}	7.127×10^{-1}
1970	2.133×10^{-2}	1.082	1.103
1971	7.445×10^{-3}	6.269×10^{-1}	6.343×10^{-1}
1972	3.875×10^{-3}	4.097×10^{-1}	4.136×10^{-1}
1973	4.406×10^{-2}	1.377	1.421
1974	2.303×10^{-2}	4.611	4.634
1975	7.468×10^{-2}	8.128×10^{1}	8.136×10^{1}
1976	1.066×10^{-1}	2.003×10^{1}	2.014×10^{1}
1977	4.699	3.566×10^{1}	4.036×10^{1}

CALCULATION SHEET

REFERENCES

1. Rumble, B. J., Radiological Effluent History, GAT-R-598, Goodyear Atomic Corporation, Piketon, Ohio, August 23, 1976.

2. Hulett, S., Kalmon, B., and Emler, V., Radioactive Effluents-Portsmouth Gaseous Diffusion Plant, Calendar Year 1971, GAT-R-579, Goodyear Atomic Corporation, Piketon, Ohio, July 6, 1972.

3. Kalmon, B. and Emler, V., Radioactive Effluents-Portsmouth Gaseous Diffusion Plant, Calendar Year 1972, GAT-R-581, Goodyear Atomic Corporation, Piketon, Ohio, February 28, 1973.

4. Kalmon, B. and Koehler, F. A., Radioactive Effluents-Portsmouth Gaseous Diffusion Plant, Calendar Year 1973, GAT-R-584, Goodyear Atomic Corporation, Piketon, Ohio, February 27, 1974.

5. Kalmon, B., Radioactive Effluents-Portsmouth Gaseous Diffusion Plant, Calendar Year 1974, GAT-821, Goodyear Atomic Corporation, Piketon, Ohio February 17, 1975.

6. Anderson, R. E., Radioactive Effluents-Portsmouth Gaseous Diffusion Plant, Calendar Year 1975, GAT-864, Goodyear Atomic Corporation, Piketon, Ohio, March 11, 1976.

7. Rumble, B. J., Radioactive Effluents-Portsmouth Gaseous Diffusion Plant, Calendar Year 1976, GAT-906, Goodyear Atomic Corporation, Piketon, Ohio,

8. Rumble, B. J., Radioactive Effluents-Portsmouth Gaseous Diffusion Plant, Calendar Year 1977, GAT-954, Goodyear Atomic Corporation, Piketon, Ohio,

9. Walker, C. R., Personal Communications, Goodyear Atomic Corporation, Piketon, Ohio, August 2, 1976.

10. Acox, T. A., Personal Communications, Goodyear Atomic Corporation, Piketon, Ohio, May 17, 1978.

11. Manning, R. E., Personal Communications, Goodyear Atomic Corporation, Piketon, Ohio, August 5, 1976.

TR-060778-SAT/JED

APPROVED FOR RELEASE BY:
M. M. Eareheardt

07 A30 R29 OSHA Safety & Health
Complaints - 1978--1980

#13252

BUSINESS CONFIDENTIAL

GOODYEAR ATOMIC CORPORATION

P. O. BOX 628
PIKETON, OHIO 45661
PHONE: 614-289-2331

NOV 12 1980
GAT-810-80-69

Department of Energy
Enriching Operations Division
Oak Ridge Operations
P. O. Box E
Oak Ridge, TN 37830

Attention Mr. H. D. Fletcher, Director

Gentlemen:

OCCUPATIONAL SAFETY AND HEALTH COMPLAINT - CHARLES M. WILTSHIRE

In reply to your request of October 24, 1980 (EO-221:HEC) concerning the two written complaints received from Charles M. Wiltshire, the Company response and other actions were as follows:

Our current Operating Specification CA 5.6-1, issued March 23, 1978, titled "Operation of Worthington Compressors," (copy attached) details the steps to be taken when starting Worthington compressors. Newly installed compressors are more prone to unsatisfactory leak rates due to leaking flanges, welds, or instrument lines, and require a more stringent leak rate criteria. Initially, the new compressor must pass a static leak rate during an eight hour heat-up period. As soon as the compressor is started and the seal instrumentation is controlling, the compressor is evacuated and leak rated again for at least ten minutes. A running leak rate of 1 psi or less in ten minutes is acceptable which is equivalent to 21.5 SCF/D.

On previously operated compressors, either running or being re-started, the warm-up period has already passed and as soon as the seal instrumentation is controlling after start up, the compressor is isolated for a running leak rate. The evaluation of a running leak rate on previously operated compressors takes into consideration that they have been previously exposed to P.G. and that the seal instrumentation is controlling. Past years of experience has shown that these compressors can be safely operated for weeks or even months while the seal is leaking 200 to 300 SCF/D. Considerable seal feed nitrogen inleakage leeway is allowable on these compressors as long as the seal instrumentation is in full control and the additional inleakage does not interfere with station condensing and vent controls.

APPROVED FOR RELEASE BY:
R. E. Waltz

BUSINESS CONFIDENTIAL

The station inleakage is monitored on line recorders at the vent return point to the Cascade.

Operational Change Memo CA 5.6-1, Add. 3, issued August 14, 1980, amended and clarified the differences between newly installed compressors and previously operated compressors.

Operating instructions to all Cascade Coordinators on August 11, 1980, reminded the Coordinators of their responsibility to always inform the X-326 building foreman and/or the E.R.P. Station operator when valving changes are necessary on the supply or return headers for the station withdrawal.

A chronology of communications (copies attached) among all parties includes the following:

1. July 28, 1980 - letter from C. M. Wiltshire to N. H. Hurt.
2. July 30, 1980 - letter from C. M. Wiltshire to N. H. Hurt.
3. Response letter - dated 8/4/80 - to C. M. Wiltshire from N. H. Hurt.
4. Operating instruction - 8/11/80 - to Cascade Coordinators.
5. OCM CA 5.6-1, add. 3 - dated 8/14/80 - clarifying differences between new and previously used compressors.
6. Response letter - dated 8/15/80 - to C. M. Wiltshire from N. H. Hurt.
7. Letter of admonishment - dated 8/18/80 - to H. L. White and E. Cook, Cascade Coordinators, for failure to prepare an OCM allowing a variance on compressor leak rate.
8. Operational Change Memo, CA 5.6-1, add. 4, dated October 17, 1980 - consolidated Add. 1, 2 and 3.

It is felt that the above narrative and the attachments will answer the questions raised in your correspondence. Any additional information or clarification will be supplied at your request.

Very truly yours,

GOODYEAR ATOMIC CORPORATION

Original Signed by
N. H. Hurt

N. H. Hurt
General Manager

APPROVED FOR RELEASE BY:
F. E. Waltz

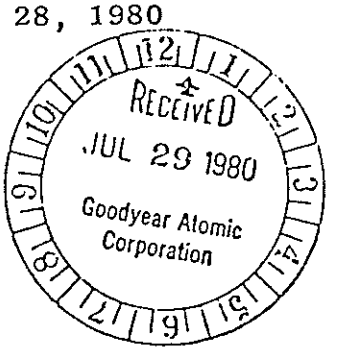
JRT:sg

Enc. (9)

bcc: R. B. Boeye w/o att.
D. E. Carver w/o att.
C. M. Hutchings w/o att.
C. A. Mentges w/o att.
W. R. Schultz w/o att.
R. L. Shepler w/o att.
R. M. Zeek w/o att.

BUSINESS CONFIDENTIAL

July 28, 1980



Mr. Nate Hurt
Goodyear Atomic Corporation
Pikton, Ohio

Dear Mr. Hurt:

I am writing to you as an employee concern about the prevention of furture UF_6 releases in the X-326 building. The result of UF_6 releases make my job unpleasent because of the extra safety paraphernalia and precautions require to work in a contaminated area, not to mention the extra work load.

Without going into a detail operation of the Extended Range Product Withdrawal Station (ERP Station) thereare Operation Specifications written to assure quality and a safe operation of equipment. These Operating Specifications are frequently violated.

To isolate each violation of the O.S.'s would be far too numerous to write about. I have mentioned many of these violations to my supervision, but they are walls that only hear. The O.S.'s are ignored time and time again. The most recent violation is the putting onstream of a compressor on 7-27-80, which failed the permissible leak rate of 1 lb./10 min. The compressor leak rate was 7.5 lb/10 min. This kind of procedure greatly increases the possibility of UF_6 releases.

If this kind of operation is acceptable, please disregard my letter and I stand with great apprehension.

A concerned employee,

Charles Wiltshire

APPROVED FOR RELEASE BY:
F. E. Woltz

Charles M. Wiltshire

CC: Union Hall

P.S. On 7-28-80 this compressor failed and resulted in a UF_6 released and the placing of 2 man restriction. The release occurred approx 11:15 P.M.

Charles

BUSINESS CONFIDENTIAL

BUSINESS CONFIDENTIAL

July 30. 1980

Mr. Nate Hurt
Goodyear Atomic Corporation
Piketon, OH 45661

Dear Mr. Hurt:

The intent of my letter to you on July 28, 1980, was not to incriminate supervision, but to present a problem that needed correction. It is untimely the UF_6 release occurred at the writing of my letter, for it appears we have focused our attention on reacting to the incident rather than allowing ourselves to address the problem.

In my last letter, I mentioned supervision in general as I did not want to call attention to any particular echelon.

In order to clarify the problem, I will state it. The PCF, at times, assist in the violation of Operation Specifications when they know it will meet with the disapproval of building supervision. When nothing happens it is allowed to slip by with a promise not to do it again. I will give two more examples:

(1) The practice of changing vent returns without contacting the Shift Foreman or ERP operator.
(2) The practice of continuing onstream with a compressor that is known to have a bad seal.

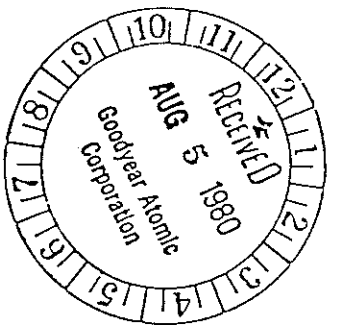
The PCF seems willing to risk the possibility of a UF_6 release, the safety of employees and equipment rather than follow operating specifications.

Still concerned,

APPROVED FOR RELEASE BY:
F. E. Woltz

Charles M. Wiltshire

CC W. M. Reffit
Union Hall



BUSINESS CONFIDENTIAL

INTERDEPARTMENTAL CORRESPONDENCE

BUSINESS CONFIDENTIAL

TO: Charles M. Wiltshire

DEPT: 814

LOCATION: X-326 Building

DATE: August 4, 1980

FROM DEPT: 001

CODE NO:

REFERENCE:

SUBJECT: PREVENTION OF RELEASES

Dear Mr. Wiltshire:

Your concern regarding the prevention of releases is appreciated and I certainly share this concern with you. In discussing the situation with Operations personnel, it was felt in this particular situation that the potential for UF_6 outleakage was very low. The suggested leak rate listed in the Operating Specification was intended for a newly installed compressor to assure that the installation provided system integrity (welds, flange, gaskets, etc.). Practice has always been that after initial acceptance to continue to use a compressor as long as the seal system is under control, the vent return valve is not wide open, and the withdrawal rate is maintained. Because of the small system volume, the leak rate for W-3 at the time in question was equivalent to approximately 135 scfd dry air or nitrogen inleakage. This would not cause operational problems. Even the approximately 275 scfd leak rate of AC-1 should not have been a problem if all of the factors (seal instrumentation, vent valve position, compression efficiency, etc.) were satisfactory.

Operating experience since the compressor shafts were vented has shown that significant outleakage has not occurred at the compressor seal except when the station vent return line has been closed inadvertently.

An OCM is being prepared to clarify the intent of the 6 psi/hr being an applicable rate for newly installed compressors, with the other considerations being appropriate for compressors that have been on stream previously.

I commend your conscientiousness in following the Operating Specification as written and interpreted; this is a must in all operations.

Original Signed By
N. H. HURT

N. H. Hurt
General Manager

cy Union Hall

bcy R. L. Shepler
R. M. Zeek

APPROVED FOR RELEASE BY:
F. E. Woltz

BUSINESS CONFIDENTIAL

CASCADE OPERATIONS

OPERATION INSTRUCTIONS

TO: CASCADE COORDINATORS [redacted] AREA PCF DATE 8/11/80

CC: CASCADE SUPERINTENDENT
SHIFT SUPERINTENDENT
CASCADE COORDINATORS
FILE

E.R.P. Operations

We should always inform the X-326 building foreman and/or the E.R.P. Station operator when valving changes involving the supply or vent return from the station are to be made. This will alert the station operator as to what might be wrong in the event the supply or vent is disrupted causing station problems.

Housekeeping:

A weekly housekeeping check is to be made each week as indicated on the Area Work Schedule. The Coordinators consoles, the Radiation Alarm console, and the Sprinkler System consoles tend to collect a lot of dust; therefore, they need to be dusted each shift so as to present a clean working area to the on-coming shift.

Once again we are falling behind on the alternate day bleed from X-342. Try to make up the monthly loss as soon as possible.

Maintenance for X-326 Building:

27-3-9 Maintenance to make up an X-2 expansion joint for the S/5 "B" downflow line.

AC-1 Maintenance to make up a discharge expansion joint.

27-1-1 To be scanned for possible deposits before resuming treatments.

27-1-18 Electrical problems - stay down till further notice.

25-6-15 S/6 comp N.O.S. - not scheduled yet.

25-7-20 5-B seal tomorrow.

H.E. W/D to start tomorrow.

APPROVED FOR RELEASE BY:
F. E. Woltz

SHIFT RECOGNITION
(PLEASE INITIAL)

A _____
B _____
C _____
D _____
R _____

J. R. Thompson
AREA SUPERVISOR

INTERDEPARTMENTAL CORRESPONDENCE

BUSINESS CONFIDENTIAL

TO: Charles M. Wiltshire

DEPT: 814
LOCATION: X-326

DATE: August 15, 1980
FROM DEPT: 001
CODE NO:
REFERENCE:

SUBJECT: PREVENTION OF RELEASES

Dear Mr. Wiltshire:

Your letter dated July 30, 1980, was written before you received my response to your previous letter. As a consequence, some of your most recent concerns regarding the use of a compressor with a bad seal, perhaps, have been answered. Our position regarding compressor leak rates and seals which are still functioning based on seal instrumentation indications were stated in my letter of August 4, 1980.

An Operating Change Memorandum (OCM) clarifying the compressor system leak rate has been prepared and is being routed for signatures at this time.

Regarding your concern on the lack of communication between the PCF and the areas, I share that concern. Operating instructions have been issued to the Cascade Coordinators which should correct this situation.

Our shift organization has always functioned with the Cascade Coordinator being in charge of the shift as far as the cascade operation is concerned. During "O" shift if he feels there is a need to deviate from a specified procedure, he requests an OCM from the appropriate Technical Service Organization. If the request is appropriate, an OCM is prepared and the necessary signatures are obtained. On all other shifts the Cascade Coordinator makes the necessary decisions after consulting with the area personnel and then prepares an OCM covering any required deviation from the written procedures. On the next office shift his decision is reviewed by the Production Division Management and the appropriate Technical Service Organization, and at that time the OCM is either approved and issued formally, or rescinded as necessary. Some OCMs are for limited periods, others are eventually incorporated into a revised Operating Method.

If you have further concern and do not receive an explanation from your immediate supervision and building supervision, I will be glad to have the situation studied. I do feel that your supervision should be given the courtesy of being contacted before you contact me. We must strive to attain the feeling of cooperation which is vital to a pleasant work atmosphere.

APPROVED FOR RELEASE BY:
F. E. Woltz

N. H. Hurt
General Manager

bcy R. L. Shepler
R. M. Zeek

BUSINESS CONFIDENTIAL

NUMBER: CA 5.6-1, Add. 3

ISSUED: 8/14/80 TIME: _____

EFFECTIVE: Immediately

PAGE 1 OF 1 PAGES

OPERATIONAL CHANGE MEMO

SUBJECT ADDITION TO NORMAL START-UP OF COMPRESSOR

CHANGE Item 6 under Section 3.2 to read:

6. If the seals are controlling, evacuate the compressor to 7 psia and obtain a 10 minute leakrate. On a new installation, an acceptable leakrate is 1.0 psi in 10 minutes (six lb./hr. at a volume of 2.2 $ft.^3$). However, on a system that has been exposed to PG, the inleakage may be determined on the line recorder. Nitrogen inleakage is not of concern, unless it interferes with the withdrawal systems controls, such as automatic operation of vent control valve, condensing problems, or having to "burp" the withdrawal cylinder periodically. If any of the conditions are encountered, or if the seal is out of control, the foreman will evaluate the conditions and decide if a seal change is necessary.

APPROVED FOR RELEASE BY:
F. E. Woltz

APPROVALS (AS REQUIRED)

PROCESS TECHNICAL SERVICES FOR ISSUE C S Knauth	PROCESS ENGINEERING B. W. Shupt for W. E. Linville	CASCADE OPERATIONS R. M. Beck
OPERATIONS ANALYSIS N/A	DEVELOPMENT ENGINEERING N/A	URANIUM OPERATIONS N/A
PREPARED BY P. E. Bowser	NUCLEAR CRITICALITY SAFETY N/A	NUCLEAR MATERIALS CONTROL N/A

August 28, 1980

TO: Howard L. White
Elwood Cook

FAILURE OF W-3 COMPRESSOR AT E. R. P. STATION

After discussing all factors with personnel involved in the Worthington Compressor failure incident at the X-326 E. R. P. Station on 7/28/80, Management evaluation of the decisions and actions taken at the time are as follows:

1. Your decision to use the W-3 compressor after considering the running leak rate and comparing it to the running leak rate of the AC-1 compressor was rational and appropriate based on prior experience with this type of pump as long as the seal instrumentation was under control A follow-up by checking the inleakage rate on up-stream line recorder above the vent return point was appropriate and normal.

2. The Operating Procedure defining the allowable leak rate was meant to be for a static leak rate on a newly installed compressor to validate system integrity, and is to be re-written and modified. Because Operating Specification CA 5.6-1 indicated a maximum leak rate, an O. C. M. should have been issued indicating that the decision to use the W-3, even though it exceeded the allowable leak rate, was considered an acceptable risk as long as the seal was under control and that cascade inleakage was acceptable. When operational conditions change or a variance is needed to handle a change in operations specified in a written procedure or guideline, these decisions need to be covered by writing an O. C. M. In this case, and in future situations, Supervision will decide when and if pumps are to be changed. If these decisions fall outside the ordinary guidelines written on Operating Methods, then they need to be documented with an O. C. M.

APPROVED FOR RELEASE BY:
F. E. Woltz

J. R. Thompson

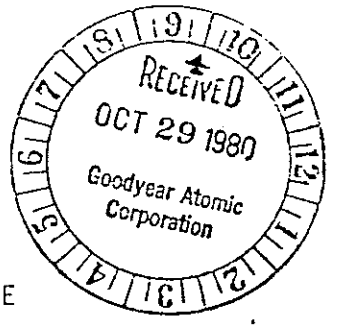
J. R. Thompson, Supervisor
Plant Control Facility
Cascade Coordination

Orig: Shepler--prepare response for GM by 11/7/80 YHA

Copy: Hutchings
Boeye
Carver
Schultz NHH 10/30/80

Department of Energy
Oak Ridge Operations
P.O. Box E
Oak Ridge, Tennessee 37830

October 24, 1980



Goodyear Atomic Corporation
ATTN: Mr. N. H. Hurt
General Manager
P. O. Box 628
Piketon, Ohio 45661

Gentlemen:

OCCUPATIONAL SAFETY AND HEALTH COMPLAINT, CHARLES M. WILTSHIRE

The subject complaint has been referred to this office as an operations related problem. The subject of the complaint dealt with the operating specifications for the leak rate on newly installed compressors not being followed. In your reply, a difference was established between placing a newly installed compressor on stream and one that was being returned to service. Please review, for our information, the following points:

1. Current specifications for leak rates for on stream operation in newly installed compressors and compressors that are being returned to service.

2. Dates and findings of the last review of these operating specifications.

3. Explanation of reasons behind differences in these operating specifications.

In addition, please provide copies of all letters and correspondence that have not previously been provided to this office. Summarize in chronological order all actions that GAT has taken in this matter.

Please provide this information by November 10, 1980.

Sincerely,

H. Doran Fletcher

H. Doran Fletcher, Director
Enriching Operations Division

EO-221:HEC

APPROVED FOR RELEASE BY:
F. E. Woltz

Shepler
Prepare response
by Nov. 7

cy- Hutchings
Doug
Carver
Schultz

NHH

Memo from NATE HURT

Oct. 20, 1980

To: R. L. Shepler

OCCUPATIONAL SAFETY AND HEALTH COMPLAINT
(NHTravis to CMWiltshire, 10/10/80)

Please check Fletcher regarding what he intends to do in reference to the last sentence in first paragraph.

Please advise.

Nate

Attch.

cy: C.M. Hutchings
D.E. Carver

Copy to: CMH

RBB
DEC
WRS
RLS

NHH

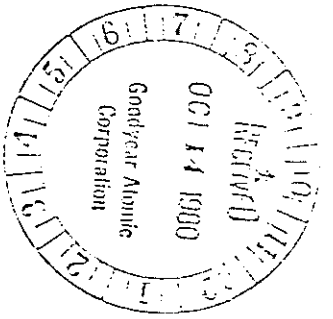
Orig: Hutchings

Copy: Boeye
Carver
Schultz
Shepler

10/20/80

Department of Energy
Oak Ridge Operations
P.O. Box E
Oak Ridge, Tennessee 37830

October 10, 1980



Mr. Charles M. Wiltshire
Building K326 (ERP Station)
Goodyear Atomic Corporation
Piketon, Ohio 45661

Dear Mr. Wiltshire:

OCCUPATIONAL SAFETY AND HEALTH COMPLAINT

This is in response to your complaint dated July 29, 1980, which I received on August 8, 1980, and will serve to show what actions we have taken.

As you recall, you were contacted by B. J. Davis of my staff on August 11, 1980, for the purpose of obtaining information on which we could make a determination if an onsite inspection would be conducted. As you declined to discuss the matter by telephone, Mr. William A. Pryor of my staff met with you on August 19, 1980, for purpose of obtaining such information. We have reviewed the information provided during those discussions and copies of the correspondence subsequently provided. We have determined that this complaint does not involve a violation of a specific DOE health or safety standard and therefore a formal onsite investigation will not be conducted. However, we share your concern regarding the necessity for adherence to procedures since violations can lead to serious health and safety consequences and/or facility and equipment damage. Due to the potential seriousness of the matter, we have referred all the information provided to H. D. Fletcher, Director, Enriching Operations Division, the contract administrator for the plant, for further evaluation of your allegations.

Although not the subject of your complaint, you indicated to Mr. Pryor that there were problems with your bioassay samples and that you understood two were lost. Discussions with GAT staff indicate that they have data which corresponds to all hospital visit slips for urinalysis purposes. There was a problem with analysis of one sample where part of the data was lost due to operator error. However, the data which was obtained on this sample was sufficient for health protection purposes.

APPROVED FOR RELEASE BY:
F. E. Woltz

You have the right to appeal our decision should you desire to do so. An appeal would be initiated by submitting a written statement of your views on the investigation to the Deputy Manager, ORO, or to the Director, Safety and Environmental Control Division, at the following addressees:

Mr. J. H. Hill
Deputy Manager
Room 3022
Federal Building
Oak Ridge Operations
U. S. Dept. of Energy
P. O. Box E
Oak Ridge, TN 37830

Mr. W. H. Travis, Director
Safety & Environmental Control
Division, Room G-108
Federal Building
Oak Ridge Operations
U. S. Dept. of Energy
P. O. Office Box E
Oak Ridge, TN 37830

The Director, Safety and Environmental Control Division, may submit an opposing written statement of position to the Deputy Manager. If he does, a copy will be sent to you. The Deputy Manager, at his discretion, or at your request, or at the request of the Director, Safety and Environmental Control Division, may hold an informal conference in which both parties may orally present their positions. After consideration of all views, the Deputy Manager would determine the disposition of the complaint. His determination would be final and not subject to further review. You would be furnished a written copy of the final determination.

Your interest in safety is greatly appreciated.

Sincerely,

William H. Travis, Director
Safety & Environmental Control
Division

MS-334:BJD

cc:
C. A. Heller, MS-II
J. H. Hill, M-2
J. W. Swafford, PE-10
H. D. Fletcher, EO-23
N. H. Ward, GAT

APPROVED FOR RELEASE BY:
F. E. Woltz

MENTGES

PLEASE ANSWER

RJH

Department of Energy
Oak Ridge Operations
P.O. Box E
Oak Ridge, Tennessee 37830

Orig: ~~Shepler prepare response no later than end of October for GM signature~~ NHH

Copy: Hutchings
Boeye
Carver
Schultz NHH 9/29/80

September 25, 1980

Goodyear Atomic Corporation
ATTN: Mr. N. H. Hurt, Jr.
General Manager
Post Office Box 628
Piketon, Ohio 45661

Gentlemen:

OCCUPATIONAL SAFETY AND HEALTH COMPLAINT

This is in response to your letter to me dated August 6, 1980, subject as above. We have reviewed your letter and have only one concern with the actions described. We realize the radiological status of the Building X-326 has significantly improved and some relaxation of controls may be achieved. However, due to situations which have occurred during the past several months, we believe it prudent to continue monitoring of visitors and other personnel who wear personal clothing and shoes and whose activities require entrance into the remaining contaminated areas. We leave to your discretion the methods to be used to assure this is accomplished. Please advise me when this has been accomplished.

Sincerely,

APPROVED FOR RELEASE BY:
F. E. Woltz

H. D. Fletcher

MS-334:BJD

H. D. Fletcher, Director
Enriching Operations Division

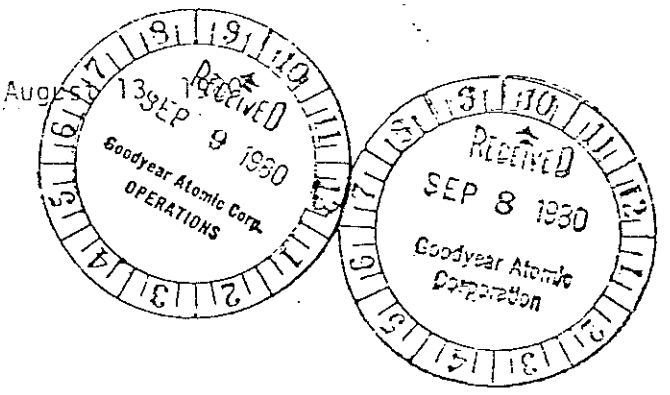
cc: C. A. Keller, MS-30
E. B. Kiser, ER-10
W. H. Travis, MS-33

Orig: CMHutchings

Copy: RBBoeye
DECarver
WRSchultz
RLShepler

NHH 9/9/80

Department of Energy
Oak Ridge Operations
P.O. Box E
Oak Ridge, Tennessee 37830



Mr. Owen H. Thompson
Route 2
Box 207
McDermott, Ohio 45652

Dear Mr. Thompson:

DOE OCCUPATIONAL SAFETY AND HEALTH COMPLAINT AT PORTSMOUTH GASEOUS DIFFUSION PLANT

Your complaint dated July 22, 1980, regarding inadequate protection provided for workers cleaning up lube oil contaminated with PCBs was studied by members of my staff through telephone conversations with you, the Goodyear Health Physics and Industrial Hygiene Department, and your supervision. Because the situation described in your complaint does not involve a violation of DOE health and safety standards, a formal onsite inspection will not be conducted. The hazards associated with the cleanup of lubricating oils contaminated with small quantities of PCB material have been covered by way of a supervisory safety letter from Industrial Hygiene and Health Physics at GAT to all supervision. This letter outlined the relative hazards associated with and proper protective measures which should be taken in working with this material. The supervisor in turn has made this information available to all employees through safety meetings. By your own admission, protective clothing was available for use in cleaning up the said lubricating oil. Your concern about the use of cleaning equipment which might be contaminated with PCBs in areas other than for cleaning of PCB contaminated jobs has been brought to the attention of the GAT Health Physics and Industrial Hygiene Department and steps have been taken to insure that this practice does not occur in the future. By copy of this letter, the management at your facility is being informed of your concerns so that appropriate action can be taken if deemed necessary by them to further alleviate your concerns.

If you wish to appeal the decision not to investigate the safety issues discussed in your letter, you have the right to do so. An

APPROVED FOR RELEASE BY:
F. E. Woltz

appeal would be initiated by submitting a written statement of your views to Oak Ridge Operations, Deputy Manager and the Director of Safety and Environmental Control Division at the following addresses:

Mr. J. H. Hill
Deputy Manager
Room 3022
Federal Building
Oak Ridge Operations Office
U.S. Department of Energy
Post Office Box E
Oak Ridge, Tennessee 37830

Mr. William H. Travis, Director
Safety and Environmental Control Division
Room G108
Federal Building
Oak Ridge Operations Office
U.S. Department of Energy
Post Office Box E
Oak Ridge, Tennessee 37830

The Director of Safety and Environmental Control Division may submit an opposing written statement of position to the Deputy Manager. If he does, a copy will be sent to you. The Deputy Manager at his discretion or at your request or at the request of the Director of Safety and Environmental Control Division may hold an informal conference in which both parties may orally present their positions. After consideration of all views, the Deputy Manager will determine the disposition of the complaint. His determination will be final and not subject to further review within DOE-ORO. You would be furnished a written copy of a final determination.

Your interest and concern with the health and safety of the employees at Portsmouth Gaseous Diffusion Plant are appreciated. Should safety or health concerns rise again, hopefully they can be resolved locally using procedures and expertise available at your facility.

Sincerely,

William H. Travis

William H. Travis, Director
Safety and Environmental Control Division

MS-334:GLL

CC: C. A. Keller, MS-30
J. W. Swafford, PE-10
~~N. H. Hume, Paducah~~ not Paid!
H. D. Fletcher, EO-22
E. B. Kiser, EO-20
J. H. Hill, M-2
W. H. Travis, MS-33

APPROVED FOR RELEASE BY:
F. E. Woltz

Attachment 1

Oil, Chemical and Atomic Workers International Union

NOLAN W. HANCOCK, DIRECTOR
CITIZENSHIP-LEGISLATIVE
DEPARTMENT

STEVEN WODKA
INTERNATIONAL REPRESENTATIVE

1126 - 16TH STREET, N.W.
WASHINGTON, D.C. 20036
PHONE: (202) 223-5770

CERTIFIED MAIL, R.R.R.

January 22, 1980

Mr. William Travis, Director
Safety and Environmental Control Division
U. S. Department of Energy
Oak Ridge Operations Office
P. O. Box E
Oak Ridge, Tennessee 37830

Re: Complaint and Freedom of Information Request
Goodyear Atomic Corporation, Portsmouth, Ohio

Dear Mr. Travis:

We hereby file this complaint of imminent danger against the Goodyear Atomic Corporation at the Portsmouth, Ohio gaseous diffusion plant pursuant to DOE Manual Chapter 0506, Part V, Paragraph C. The Oil, Chemical and Atomic Workers International Union and its Local 3-689 are the authorized employee representative for the affected employees.

On January 3, 1980 local OCAW Shift Safety Representative G.K. Sleighter was informed by Goodyear Atomic's Industrial Hygiene and Health Physics Department of radioactive contamination in the X-326 building. The survey was transmitted to Mr. Sleighter in an interdepartmental correspondence memo which is attached to this complaint as Union Exhibit #1. The actual survey results are also attached to this complaint and are designated as Union Exhibit #2.

This survey indicated that many areas of the X-326 building have extremely high levels of radioactive contamination. In Table III of Union Exhibit #2, a summary of the survey indicates that the average index level of contamination in the entire building is 98.5. This constitutes a violation as the plant allowable limits are 100 counts per minute which would result in an index level of 10.0.

Upon receipt of this information, the President of OCAW Local 3-689, Mr. D. W. Bloomfield, contacted J. L. Yocum, Goodyear Atomic Manager of Industrial Relations on January 7, 1980, and requested that the X-326 building be immediately declared a Red Job Assignment.

Such Red Job Assignments provide that employees working in the designated area be furnished with special protective clothing. This designation is required to be made when the alpha contamination index is greater than 75 or has a potential for high levels of contamination (See Goodyear Atomic Standard Practice Manual, Union Exhibit #3, attached). Both criteria for the designation of a Red Job Assignment have been met in the instant case.

When Mr. Bloomfield made his initial request on January 7th, Mr. Yocum refused to comply with the request but promised to set up a meeting to discuss it.

The subsequent meeting was held between Mr. Bloomfield and Mr. Yocum on January 10, 1980. In this meeting, the company again refused to issue the Red Job Assignment designation and claimed that the Industrial Hygiene and Health Physics Department survey was no longer accurate. Moreover, the company claimed that the Production Department had surveyed the X-326 building and had found the index to be below 75. It being highly irregular for the Production Department to perform a basic function of the Industrial Hygiene and Health Physics Department, Mr. Bloomfield requested that he, as the authorized employee representative, be provided with a copy of the results of the Production Department's alleged "survey". Mr. Yocum refused to provide Mr. Bloomfield with a copy of the alleged survey results.

The following day, January 11, 1980, Mr. Bloomfield again requested that Mr. Yocum make the Red Job designation, but the company again refused.

We therefore request an immediate investigation by the DOE into this situation and that:

1) the X-326 building be immediately designated a Red Job Assignment while this investigation is proceeding;
2) the contamination in the X-326 building be immediately reduced to below plant allowable limits;
3) Goodyear Atomic be prohibited immediately from allowing the Production Department to perform contamination surveys and that this function be restricted to the Industrial Hygiene and Health Physics Department;
4) the authorized employee representative, Mr. D. W. Bloomfield, be provided with copies of all contamination surveys of the X-326 building; and
5) consistent with the Occupational Safety and Health Act of 1970, Goodyear Atomic be cited by DOE for the following separate willful violations and be fined $10,000 for each violation:
   a) willful refusal to designate a Red Job Assignment after request by the authorized employee representative;
   b) willful disregard for the recommendation of the Industrial Hygiene and Health Physics Department;
   c) willful reassignment of health physics reponsibilities to a production department;
   d) willful refusal to provide the authorized employee representative with the results of radioactive contamination surveys; and
   e) willful refusal to immediately reduce radioactive contamination to below plant allowable limits.

Our representative for investigation, inspection, and all opening and closing conferences is:

Mr. D. W. Bloomfield, President
OCAW Local 3-689
P. O. Box 467
Piketon, Ohio 45661
Phone: 614/289-2671 or 4487

If Mr. Bloomfield is unavailable, we designate Mr. G. K. Sleighter or Mr. Charles McNally as alternates. They can also be reached through the above phone numbers.

We further request that your inspector contact our representative immediately upon your inspector's arrival at the facility and that our representative be given an opportunity to accompany the inspector. We further request that a joint closing conference be held with management with our representative in attendance.

I further request that I be provided with a copy of any Notice of Violation, penalties, the DOE approved abatement action plan and the results of any monitoring that are available pursuant to this inspection. Release of all this information to us is guaranteed by the Freedom of Information Act.

This complaint may be released in entirety to the employer.

Sincerely yours,

Steven Wodka
International Representative

enc.

cc: D. W. Bloomfield, Pres. Local 3-689
Jake McKeand, Int. Rep.
John Williams, Dist. 3 Dir.
A. Mazzocchi, Health & Safety Dir.
Nolan Hancock, Legislative Dir.

Enclosure 2

Occupational Safety and Health Complaint Inspection
Goodyear Atomic Corporation
January 31, 1980
Findings

1. Imminent danger does not exist. The contaminated surfaces which were the subject of the complaint; i.e., floor and other walking surfaces in Building X-326; do not present a serious exposure potential to employees working in the area. Even under pessimistic assumptions any resulting exposures would be only a very small fraction of the applicable limits.

2. The Industrial Hygiene and Health Physics (IH & HP) Department performed a radiation survey of Building X-326 during May-June 1979, which indicated that the cell floor had a contamination index of 98.5, and the operating floor a contamination index of 19.7. The survey was provided to G. Sleighter by IH and HP Department on January 3, 1980.

3. Due to floor sweepings subsequent to the above survey, the building supervision elected to resurvey these areas. This resurvey of the cell floor areas only indicated a contamination index of 38 and was completed on November 29, 1979. The survey was not coordinated with or verified by the IH and HP Department although assistance was provided in the calculational techniques for the contamination index. This resurvey and contamination index were the bases for the decision not to designate work assignments on the cell floor as "red job assignments." Standard Practice Procedure, H-8, requires that the contamination index be determined by the IH and HP Department for purposes of determining the job assignment classification relative to radioactive contamination. Therefore, since the resurvey was not validated by the IH and HP Department, the contamination indices described in Finding 2 were the procedurally correct indices that should have been used in the job classification determination. This leads to the conclusion that work assignments on the cell floor should have been designated "red job assignments," and those on the operating floor as "orange job assignments." The resurvey of the operating floor by building personnel indicated the contamination index had been reduced below the plant allowable limits (except in certain special operational areas) by sweeping. This was verified by a selected resurvey by IH and HP Department conducted during the week of January 21, 1980. Therefore, with certain exceptions no specific work assignment designation re Standard Practice Procedure, H-8, is required. This does not mean however, that controls may not be needed for work activities on

APPROVED FOR RELEASE BY:
F. E. Woltz

the operating floor as it is recognized that there is a potential for contamination on and in equipment on this floor. Work activities on this floor, as on the cell floor, will require health protection evaluation.

4. The HP and IH Department recommended that certain health protection measures be instituted in Building X-326 in October 1978, due to the existing contamination levels. Similar recommendations were made in September and again in October 1979. Memorandum from operations personnel indicated in October 1979 that the recommended measures had been implemented. However, as late as January 25, 1980, the Radioactive Materials Contamination Control Steering Committee meeting minutes indicated that a plan is need for implementation of consistent health protection measures in the building. This conflicting documentation and observation during the inspection lead to the conclusion that a review of the health protection program being implemented in Building X-326 is needed to provide assurance that consistent health protection measures are being implemented and radiation exposures are being maintained as low as practical.

5. GAT established a Radioactive Materials Contamination Control Steering Committee in November 1979 to review the overall contamination control program at the plant. Four subcommittees have been charged with the following: .

    1. developing a decontamination plan for Building X-326,
    2. reviewing the technical basis for the plant contamination control limits,
    3. reviewing the existing documentation relating to contamination control practices, and
    4. Reviewing the existing contamination control work practices.

    The activities of the committee should result in implementation of a uniform policy for contamination control and assurance that radiation exposures from this source are maintained as low as practical.

APPROVED FOR RELEASE BY:
F. E. Woltz

Occupational Safety and Health Complaint Inspection

Goodyear Atomic Corporation

January 31, 1980

Recommendations

1. GAT should assure that radiation surveys upon which health protection decisions are based are either performed by or verified by the Industrial Hygiene and Health Physics Department.

   Standard: Standard Practice Procedure, H-7, Section C.10.

   Abatement Period: Immediately

2. GAT should assure that consistent health protection measures for all potentially exposed employees in Building X-326 are being implemented.

   Standard: DOEM 0524-011b.

   Standard Practice Procedure, H-7, Sections A.2. and C.1. and 6.

   Abatement Period: February 8, 1980

3. GAT should designate all work assignments on the cell floor of Building X-326 as "Red Job Assignments" until such time as the Industrial Hygiene and Health Physics Department determines that the contamination index has been reduced to less than 75. (The work assignments covered by this designation may be reduced in accordance with verification of the success of decontamination.)

   Standard: Standard Practice Procedure, H-8, Section on Responsibilities, Item C.

   Abatement Period: Immediately

Department of Energy
Oak Ridge Operations
P.O. Box E
Oak Ridge, Tennessee 37830

March 18, 1980

Mr. Steven Wodka
Internation Representative
Oil, Chemical and Atomic Workers
International Union
1126 - 16th Street, N.W.
Washington, D. C. 20036

Dear Mr. Wodka:

OCCUPATIONAL SAFETY AND HEALTH COMPLAINT

Reference: Letter dated January 22, 1980, from Mr. Steven Wodka, OCAW, to Mr. William H. Travis, ORO.

In response to the referenced letter, an unannounced inspection was conducted at the Portsmouth Gaseous Diffusion Plant on January 31, 1980. The issues in your letter were discussed with your designated representative, Mr. Dennis Bloomfield, other Local 3-689 representatives, Goodyear management, supervision, and employees. The findings (Enclosure 1) of and recommendations (Enclosure 2) resulting from the inspection were discussed with Mr. Bloomfield; Mr. N. H. Hurt, Jr., Plant Manager, and other Local 3-689 and Goodyear management representatives in a joint closeout on February 1, 1980. In summary, the findings indicated:

1. Imminent danger did not exist.
2. Internal plant procedures were violated with respect to determination of the job assignment designation relative to radioactive contamination of Building X-326.
3. Additional efforts are needed by Goodyear to provide assurance that exposures are being maintained as low as practical.

Goodyear was not immediately asked to designate work assignments in Building X-326 as "red job assignments" due to the following:

The "red job assignment" designation per Standard Practice, H-8, essentially results only in specification of company

furnished clothing. It does not establish specific health protection requirements. These responsibilities and authorities are covered in other Goodyear documents. Therefore, it was our judgment that immediate imposition of this designation would not have significantly affected employee health protection. You will note, however, that Recommendation 3 does impose this requirement, due to the procedural violations noted during the inspection.

As noted in the inspection findings, Goodyear, as one phase of the Radioactive Materials Contamination Control Steering Committee's activities, is developing a plan (and is implementing certain phases) for decontamination of Building X-326 with the target of reducing levels to less than plant allowable limits. While these activities (which, due to the physical size of the area, will continue over a number of months) are being conducted, Goodyear will also implement health protection measures to assure exposures are being maintained as low as practical. The final contamination condition of the building will be consistent with the DOE policy and philosophy of maintaining exposures as low as practical.

The responsibility for determining health protection measures is assigned to the Industrial Hygiene and Health Physics Department. Part of this responsibility includes assuring that radiation survey data upon which health protection decisions are made are valid. This may be accomplished by their either directly performing the surveys or verifying surveys performed by other groups. Goodyear has been directed to assure that the responsibility is not usurped.

The provision of Building X-326 contamination survey information to Mr. Bloomfield was discussed at the joint closeout. It was agreed that as far as past data are concerned, the only additional information required is the data associated with the October 1978 report prepared by the Industrial Hygiene and Health Physics Department regarding the contamination status of Building X-326. It was noted that copies of special surveys had been routinely provided to the Local 3-689. Additional future information will include that associated with any summary reports prepared. The past information and future information will be provided directly to Mr. Bloomfield by Goodyear.

You will note that the abatement periods for taking corrective actions have passed; therefore, Goodyear will not be required to submit an abatement plan, but rather will be required to provide to us information on the corrective action which has been taken. You will be provided with a copy of the letter

to Goodyear and any resulting correspondence. Goodyear will also be required to post the inspection findings, recommendations, and a description of corrective actions after the corrective actions have been approved by ORO. This action is consistent with the DOE occupational safety and health program requirements.

Sincerely,

William H Travis

MS-334:BJD

William H. Travis, Director
Safety and Environmental Control Division

Enclosures:
1. Findings
2. Recommendations

cc w/encls.:
C. A. Keller, MS-30
J. H. Hill, M-2
D. A. Horsewood, AD-44
H. Doran Fletcher, EO-22
J. W. Swafford, PE-10.
N. H. Hurt, Jr., GAT
William P. Snyder, CC-10

APPROVED FOR RELEASE BY:
F. E. Woltz

Cy- EPC

cy: R.B. Boeye
D.E. Carver
W.R. Schultz
R.L. Shepler

NHH 7/22/80

Department of Energy
Oak Ridge Operations
P.O. Box E
Oak Ridge, Tennessee 37830

July 14, 1980

Mr. D. W. Bloomfield, President
Oil, Chemical and Atomic Workers
International Union
Local 3-689
Post Office Box 467
Piketon, Ohio 45661

Dear Mr. Bloomfield:

REQUEST FOR DISCUSSION ON HEALTH AND SAFETY ISSUES

References: 1. Letter from D. W. Bloomfield, et al., to W. H. Travis, ORO, dated April 30, 1980.

2. Letter from W. H. Travis, ORO, to D. W. Bloomfield, OCAW, dated May 20, 1980.

In Reference 1, three issues were raised by you for discussion. We responded with our plans for handling your request in Reference 2. This letter will serve to document actions taken by ORO on the three items.

1. Two-Power-Operators for the Switchyard

GAT indicated in a May 13, 1980, internal memorandum from Mr. C. I. Crawford, Power and Utilities Superintendent, that two persons will be present when switching non-dead front breakers, switching in outlying buildings, and when operating pole line switches. In addition, two persons are utilized for outside inspection and other work details during inclement weather that can cause undue hazard to persons working alone. All of the above have been in effect since 1978. GAT now will also send a second person (supervisor or operator) when a power operator requests one because of safety concerns. We concur in GAT's actions as described. There are no OSHA Standards regarding two-person-operation under the conditions described in your letter. However, the Corps of Engineers General Safety Requirements Manual (EM 385-1-1) which has been adopted by ORO, provides for assigning two persons for the following electrical work:

a. on energized overhead lines,

b. in substations and power plants where the wiring is congested,

c. where the work is at remote or isolated locations,

d. at night,

e. during inclement weather, and

f. when handling energized conductors or apparatus.

It is our opinion that GAT's actions comply with the above requirements. This was conveyed to G. K. Sleighter by K. Harer of my staff during a telephone conversation on June 20, 1980. No further action is planned by us on this item.

2. Medical Coverage

Reference 2 indicated that a review of the emergency medical response capability was planned. This was performed by Mr. B. J. Davis, of my staff, during a visit to the site May 28-30, 1980. The results were reviewed with you, other OCAW representatives and GAT management at a meeting on May 30, 1980. It was found that there are seven qualified emergency medical technicians (EMT) currently among the Fire Department personnel with at least one on each shift. In addition, the remainder of the Fire Department personnel have received considerable training in emergency response and treatment. Applicable codes and standards require that two Certified EMTs respond with the ambulance to the scene. At this time, GAT does not have a sufficient number of EMTs in the Fire Department to provide this capability on all shifts. However, it is judged that the intent of the regulations is being met due to the extensive training of the non-EMT Certified responding personnel. GAT has recognized a need to provide additional Certified personnel in order to comply fully with the regulations and has hired an EMT instructor who will establish a formal EMT training program to qualify additional Fire Department personnel. We understand that this individual reported to work on July 1, 1980. It is expected that sufficient additional personnel will be qualified as EMTs to allow full compliance with the standards by December 1, 1980. GAT

has been requested to assure that during the interim training period at least one EMT remains assigned to each shift and responds with the ambulance on any emergency runs. This request was made by letter from H. D. Fletcher to N. H. Hurt, Jr., dated July 3, 1980, a copy of which was provided you at that time.

3. Building X-326

Your comments in Reference 1 dealt with the speed of decontamination of Building X-326. As we indicated earlier, the contamination levels in the building do not represent a serious exposure potential and as such do not require a decontamination emphasis to the exclusion of other plant activities. It was also indicated to you by B. J. Davis of my staff during the January complaint investigation and the May 28-30, 1980, site visit that the extent of decontamination in the building will be subject to ALAP considerations. In that regard, GAT is providing ORO with a detailed schedule and plan for the additional decontamination efforts they believe practicable. This plan and schedule will be reviewed by the contract administrator and my staff, with comments provided to GAT as appropriate. If it does not appear practicable to decontaminate the building in it entirety, GAT will be asked to provide us with a description of the controls they recommend be implemented to assure exposures resulting from any remaining contaminated areas are maintained ALAP. We will provide you with the approved decontamination plan for the building.

With respect to current activities, health protection is provided through the implementation of Operating Specification CN 11.1, which was issued in response to the January complaint investigation conducted by my staff. The three operational change memoranda which have amended the specification do not appear to significantly impact health protection provided other requirements of the specification are followed. Certain discrepancies in implementation of the specification relative to visitors were noted during the site visit. These were pointed out to GAT staff at that time. GAT has been asked in separate correspondence to confirm that corrective action has been taken. A copy of the correspondence, letter from H. D. Fletcher to N. H. Hurt, Jr., dated July 8, 1980, was provided to you and Mr. Wodka.

We appreciate your interest and concern for the health and safety of the employees at the diffusion plant. We believe that the actions which have been taken and those initiated, when completed, will satisfactorily address the issues which you raised. If we can be of further assistance on these matters, please let us know.

Sincerely,

William H Travis

William H. Travis, Director
Safety & Environmental Control Division

MS-334:BJD

cc: C. A. Keller, MS-30
E. B. Kiser, EO-20
H. D. Fletcher, EO-22
F. S. Valentine, OCAW
G. K. Sleighter, OCAW
J. D. Schultz, OCAW
Sam B. Ray, OCAW
Sam M. Cooper, OCAW
N. H. Hurt, GAT
D. A. Horsewood, AD-44
W. P. Snyder, CC-10
J. W. Swafford, PE-10

APPROVED FOR RELEASE BY:
F. E. Woltz

Orig: Schultz
Copy: Althouse/Shepler
Carver
Boeye

NHH 5/28/80

Department of Energy
Oak Ridge Operations
P.O. Box E
Oak Ridge, Tennessee 37830

May 20, 1980

Mr. D. W. Bloomfield, President
Oil, Chemical and Atomic Workers
International Union
Local 3-689
Post Office Box 467
Piketon, Ohio 45661

Dear Mr. Bloomfield:

SAFETY AND HEALTH ISSUES

Reference: Letter D. W. Bloomfield, et al., to W. H. Travis dated April 30, 1980.

The following is our planned course of action in response to the referenced letter which we received on May 5, 1980. This information was discussed in general with Mr. J. Sleighter by B. J. Davis of my staff on May 13, 1980. Mr. Sleighter had inquired about the status of your letter during conversations regarding Mr. M. Davis.

1. Two Power Operators for the Switchyard

   GAT has indicated to us that they have elected to await the completion of the DOE-ORO investigation of the accident to which you referred before responding to your petition of April 9. This was to allow consideration to be given to any needs identified by the investigation committee in this area. GAT expects to respond to you the week of May 19, 1980. Since action is being taken by GAT on this matter, we do not believe discussions on this subject to be appropriate or necessary at this time.

2. Medical Coverage

   The occupational medical program in the broad sense has two major elements: health evaluation/maintenance and emergency treatment. GAT has elected to conduct the health evaluation/maintenance function (e.g., physical examinations) during day shift hours when the largest worker population is present for best utilization of professional medical resources.

APPROVED FOR RELEASE BY:
F. E. Waltz

The principal occupational medical activity during other time periods is emergency response. It is left to the contractor's discretion how this is to be accomplished either through use of professional medical personnel or other personnel who are specifically trained for emergency response (in either case supplemented with arrangements for services with local hospitals). GAT has in the past and, it is our understanding, plans to continue the use of the latter system. We plan to review this with GAT during a visit to the site the week of May 27, 1980.

3. Building X-326

As was discussed with you during the complaint investigation in January, the contamination levels in Building X-326, while of concern from the contamination control standpoint, do not represent a serious exposure potential. The levels at the time of the investigation were such that certain health protection measures were deemed necessary to minimize exposure potential. GAT was directed to implement those measures. We plan to review this situation also during our visit the week of May 27, 1980.

We expect the report of the survey activities and sample analyses involving Mr. M. Davis' residence to be available by the time of our visit, and plan to discuss the report with the interested parties at the time.

We would also like to have a general discussion of contamination control philosophy, standards, guides, and practices during our visit since this issue has risen a number of times in recent months.

Sincerely,

William H. Travis

MS-334:BJD

William H. Travis, Director
Safety & Environmental Control Division

cc: C. A. Keller, MS-30
E. B. Kiser, EO-20
D. A. Horsewood, AD-44
H. Doran Fletcher, EO-22
W. P. Snyder, CC-10
J. W. Swafford, PE-10

APPROVED FOR RELEASE BY:
F. E. Woltz

Attachment 1

Oil, Chemical and Atomic Workers International Union

NOLAN W. HANCOCK, DIRECTOR
CITIZENSHIP-LEGISLATIVE
DEPARTMENT

STEVEN WODKA
INTERNATIONAL REPRESENTATIVE

1126 - 16TH STREET, N.W.
WASHINGTON, D.C. 20036
PHONE: (202) 223-5770

CERTIFIED MAIL, R.R.R.

January 22, 1980

Mr. William Travis, Director
Safety and Environmental Control Division
U. S. Department of Energy
Oak Ridge Operations Office
P. O. Box E
Oak Ridge, Tennessee 37830

Re: Complaint and Freedom of Information Request
Goodyear Atomic Corporation, Portsmouth, Ohio

Dear Mr. Travis:

We hereby file this complaint of imminent danger against the Goodyear Atomic Corporation at the Portsmouth, Ohio gaseous diffusion plant pursuant to DOE Manual Chapter 0506, Part V, Paragraph C. The Oil, Chemical and Atomic Workers International Union and its Local 3-689 are the authorized employee representative for the affected employees.

On January 3, 1980 local OCAW Shift Safety Representative G.K. Sleighter was informed by Goodyear Atomic's Industrial Hygiene and Health Physics Department of radioactive contamination in the X-326 building. The survey was transmitted to Mr. Sleighter in an interdepartmental correspondence memo which is attached to this complaint as Union Exhibit #1. The actual survey results are also attached to this complaint and are designated as Union Exhibit #2.

This survey indicated that many areas of the X-326 building have extremely high levels of radioactive contamination. In Table III of Union Exhibit #2, a summary of the survey indicates that the average index level of contamination in the entire building is 98.5. This constitutes a violation as the plant allowable limits are 100 counts per minute which would result in an index level of 10.0.

Upon receipt of this information, the President of OCAW Local 3-689, Mr. D. W. Bloomfield, contacted J. L. Yocum, Goodyear Atomic Manager of Industrial Relations on January 7, 1980, and requested that the X-326 building be immediately declared a Red Job Assignment.

Such Red Job Assignments provide that employees working in the designated area be furnished with special protective clothing. This designation is required to be made when the alpha contamination index is greater than 75 or has a potential for high levels of contamination (See Goodyear Atomic Standard Practice Manual, Union Exhibit #3, attached). Both criteria for the designation of a Red Job Assignment have been met in the instant case.

When Mr. Bloomfield made his initial request on January 7th, Mr. Yocum refused to comply with the request but promised to set up a meeting to discuss it.

The subsequent meeting was held between Mr. Bloomfield and Mr. Yocum on January 10, 1980. In this meeting, the company again refused to issue the Red Job Assignment designation and claimed that the Industrial Hygiene and Health Physics Department survey was no longer accurate. Moreover, the company claimed that the Production Department had surveyed the X-326 building and had found the index to be below 75. It being highly irregular for the Production Department to perform a basic function of the Industrial Hygiene and Health Physics Department, Mr. Bloomfield requested that he, as the authorized employee representative, be provided with a copy of the results of the Production Department's alleged "survey". Mr. Yocum refused to provide Mr. Bloomfield with a copy of the alleged survey results.

The following day, January 11, 1980, Mr. Bloomfield again requested that Mr. Yocum make the Red Job designation, but the company again refused.

We therefore request an immediate investigation by the DOE into this situation and that:

1) the X-326 building be immediately designated a Red Job Assignment while this investigation is proceeding;
2) the contamination in the X-326 building be immediately reduced to below plant allowable limits;
3) Goodyear Atomic be prohibited immediately from allowing the Production Department to perform contamination surveys and that this function be restricted to the Industrial Hygiene and Health Physics Department;
4) the authorized employee representative, Mr. D. W. Bloomfield, be provided with copies of all contamination surveys of the X-326 building; and
5) consistent with the Occupational Safety and Health Act of 1970, Goodyear Atomic be cited by DOE for the following separate willful violations and be fined $10,000 for each violatic
   a) willful refusal to designate a Red Job Assignment after request by the authorized employee representative;
   b) willful disregard for the recommendation of the Industria Hygiene and Health Physics Department;
   c) willful reassignment of health physics reponsibilities to a production department;
   d) willful refusal to provide the authorized employee representative with the results of radioactive contamination surveys; and
   e) willful refusal to immediately reduce radioactive contamination to below plant allowable limits.

Our representative for investigation, inspection, and all opening and closing conferences is:

Mr. D. W. Bloomfield, President
OCAW Local 3-689
P. O. Box 467
Piketon, Ohio 45661
Phone: 614/289-2671 or 4487

If Mr. Bloomfield is unavailable, we designate Mr. G. K. Sleighter or Mr. Charles McNally as alternates. They can also be reached through the above phone numbers.

We further request that your inspector contact our representative immediately upon your inspector's arrival at the facility and that our representative be given an opportunity to accompany the inspector. We further request that a joint closing conference be held with management with our representative in attendance.

I further request that I be provided with a copy of any Notice of Violation, penalties, the DOE approved abatement action plan and the results of any monitoring that are available pursuant to this inspection. Release of all this information to us is guaranteed by the Freedom of Information Act.

This complaint may be released in entirety to the employer.

Sincerely yours,

Steven Wodka
International Representative

enc.

cc: D. W. Bloomfield, Pres. Local 3-689
Jake McKeand, Int. Rep.
John Williams, Dist. 3 Dir.
A. Mazzocchi, Health & Safety Dir.
Nolan Hancock, Legislative Dir.

Occupational Safety and Health Complaint Inspection
Goodyear Atomic Corporation
January 31, 1980
Findings

1. Imminent danger does not exist. The contaminated surfaces which were the subject of the complaint; i.e., floor and other walking surfaces in Building X-326; do not present a serious exposure potential to employees working in the area. Even under pessimistic assumptions any resulting exposures would be only a very small fraction of the applicable limits.

2. The Industrial Hygiene and Health Physics (IH & HP) Department performed a radiation survey of Building X-326 during May-June 1979, which indicated that the cell floor had a contamination index of 98.5, and the operating floor a contamination index of 19.7. The survey was provided to G. Sleighter by IH and HP Department on January 3, 1980.

3. Due to floor sweepings subsequent to the above survey, the building supervision elected to resurvey these areas. This resurvey of the cell floor areas only indicated a contamination index of 38 and was completed on November 29, 1979. The survey was not coordinated with or verified by the IH and HP Department although assistance was provided in the calculational techniques for the contamination index. This resurvey and contamination index were the bases for the decision not to designate work assignments on the cell floor as "red job assignments." Standard Practice Procedure, H-8, requires that the contamination index be determined by the IH and HP Department for purposes of determining the job assignment classification relative to radioactive contamination. Therefore, since the resurvey was not validated by the IH and HP Department, the contamination indices described in Finding 2 were the procedurally correct indices that should have been used in the job classification determination. This leads to the conclusion that work assignments on the cell floor should have been designated "red job assignments," and those on the operating floor as "orange job assignments." The resurvey of the operating floor by building personnel indicated the contamination index had been reduced below the plant allowable limits (except in certain special operational areas) by sweeping. This was verified by a selected resurvey by IH and HP Department conducted during the week of January 21, 1980. Therefore, with certain exceptions no specific work assignment designation re Standard Practice Procedure, H-8, is required. This does not mean however, that controls may not be needed for work activities on

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the operating floor as it is recognized that there is a potential for contamination on and in equipment on this floor. Work activities on this floor, as on the cell floor, will require health protection evaluation.

4. The HP and IH Department recommended that certain health protection measures be instituted in Building X-326 in October 1978, due to the existing contamination levels. Similar recommendations were made in September and again in October 1979. Memorandum from operations personnel indicated in October 1979 that the recommended measures had been implemented. However, as late as January 25, 1980, the Radioactive Materials Contamination Control Steering Committee meeting minutes indicated that a plan is need for implementation of consistent health protection measures in the building. This conflicting documentation and observation during the inspection lead to the conclusion that a review of the health protection program being implemented in Building X-326 is needed to provide assurance that consistent health protection measures are being implemented and radiation exposures are being maintained as low as practical.

5. GAT established a Radioactive Materials Contamination Control Steering Committee in November 1979 to review the overall contamination control program at the plant. Four subcommittees have been charged with the following:

   1. developing a decontamination plan for Building X-326,
   2. reviewing the technical basis for the plant contamination control limits,
   3. reviewing the existing documentation relating to contamination control practices, and
   4. Reviewing the existing contamination control work practices.

   The activities of the committee should result in implementation of a uniform policy for contamination control and assurance that radiation exposures from this source are maintained as low as practical.

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F. E. Woltz

Occupational Safety and Health Complaint Inspection

Goodyear Atomic Corporation

January 31, 1980

Recommendations

1. GAT should assure that radiation surveys upon which health protection decisions are based are either performed by or verified by the Industrial Hygiene and Health Physics Department.

   Standard: Standard Practice Procedure, H-7, Section C.10.

   Abatement Period: Immediately

2. GAT should assure that consistent health protection measures for all potentially exposed employees in Building X-326 are being implemented.

   Standard: DOEM 0524-011b.

   Standard Practice Procedure, H-7, Sections A.2. and C.1. and 6.

   Abatement Period: February 8, 1980

3. GAT should designate all work assignments on the cell floor of Building X-326 as "Red Job Assignments" until such time as the Industrial Hygiene and Health Physics Department determines that the contamination index has been reduced to less than 75. (The work assignments covered by this designation may be reduced in accordance with verification of the success of decontamination.)

   Standard: Standard Practice Procedure, H-8, Section on Responsibilities, Item C.

   Abatement Period: Immediately

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F. E. Woltz

Department of Energy
Oak Ridge Operations
P.O. Box E
Oak Ridge, Tennessee 37830

March 18, 1980

Mr. Steven Wodka
Internation Representative
Oil, Chemical and Atomic Workers
International Union
1126 - 16th Street, N.W.
Washington, D. C. 20036

Dear Mr. Wodka:

OCCUPATIONAL SAFETY AND HEALTH COMPLAINT

Reference: Letter dated January 22, 1980, from Mr. Steven Wodka, OCAW, to Mr. William H. Travis, ORO.

In response to the referenced letter, an unannounced inspection was conducted at the Portsmouth Gaseous Diffusion Plant on January 31, 1980. The issues in your letter were discussed with your designated representative, Mr. Dennis Bloomfield, other Local 3-689 representatives, Goodyear management, supervision, and employees. The findings (Enclosure 1) of and recommendations (Enclosure 2) resulting from the inspection were discussed with Mr. Bloomfield; Mr. N. H. Hurt, Jr., Plant Manager, and other Local 3-689 and Goodyear management representatives in a joint closeout on February 1, 1980. In summary, the findings indicated:

1. Imminent danger did not exist.
2. Internal plant procedures were violated with respect to determination of the job assignment designation relative to radioactive contamination of Building X-326.
3. Additional efforts are needed by Goodyear to provide assurance that exposures are being maintained as low as practical.

Goodyear was not immediately asked to designate work assignments in Building X-326 as "red job assignments" due to the following:

The "red job assignment" designation per Standard Practice, H-8, essentially results only in specification of company

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furnished clothing. It does not establish specific health protection requirements. These responsibilities and authorities are covered in other Goodyear documents. Therefore, it was our judgment that immediate imposition of this designation would not have significantly affected employee health protection. You will note, however, that Recommendation 3 does impose this requirement, due to the procedural violations noted during the inspection.

As noted in the inspection findings, Goodyear, as one phase of the Radioactive Materials Contamination Control Steering Committee's activities, is developing a plan (and is implementing certain phases) for decontamination of Building X-326 with the target of reducing levels to less than plant allowable limits. While these activities (which, due to the physical size of the area, will continue over a number of months) are being conducted, Goodyear will also implement health protection measures to assure exposures are being maintained as low as practical. The final contamination condition of the building will be consistent with the DOE policy and philosophy of maintaining exposures as low as practical.

The responsibility for determining health protection measures is assigned to the Industrial Hygiene and Health Physics Department. Part of this responsibility includes assuring that radiation survey data upon which health protection decisions are made are valid. This may be accomplished by their either directly performing the surveys or verifying surveys performed by other groups. Goodyear has been directed to assure that the responsibility is not usurped.

The provision of Building X-326 contamination survey information to Mr. Bloomfield was discussed at the joint closeout. It was agreed that as far as past data are concerned, the only additional information required is the data associated with the October 1978 report prepared by the Industrial Hygiene and Health Physics Department regarding the contamination status of Building X-326. It was noted that copies of special surveys had been routinely provided to the Local 3-689. Additional future information will include that associated with any summary reports prepared. The past information and future information will be provided directly to Mr. Bloomfield by Goodyear.

You will note that the abatement periods for taking corrective actions have passed; therefore, Goodyear will not be required to submit an abatement plan, but rather will be required to provide to us information on the corrective action which has been taken. You will be provided with a copy of the letter

to Goodyear and any resulting correspondence. Goodyear will also be required to post the inspection findings, recommendations, and a description of corrective actions after the corrective actions have been approved by CRO. This action is consistent with the DOE occupational safety and health program requirements.

Sincerely,

William H Travis

MS-334:BJD

William H. Travis, Director
Safety and Environmental Control Division

Enclosures:
1. Findings
2. Recommendations

cc w/encls.:
C. A. Keller, MS-30
J. H. Hill, M-2
D. A. Horsewood, AD-44
H. Doran Fletcher, EO-22
J. W. Swafford, PE-10
N. H. Hurt, Jr., GAT
William P. Snyder, CC-10

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RECOMMENDATIONS RESULTING FROM INVESTIGATION OF COMPLAINT
RECEIVED FROM OCAW-INTERNATIONAL DATED JANUARY 22, 1980

Bobby Joe Davis completed his investigation and made the following recommendations:

1) GAT is to assure that any surveys are made by or, if made by others, verified by IHHP prior to any change being made in health protection measures.

2) GAT should insure that consistent health protection measures are implemented for all potentially exposed employees in Building X-326. (This includes both floors.)

3) GAT should designate all work assignments on the cell floor of X-326 as red job assignments until such time as the IHHP Department deems that the contamination index has been reduced to less than 75. (The job assignments covered by this designation may be reduced in accordance with verification of the success of the decontamination effort.)

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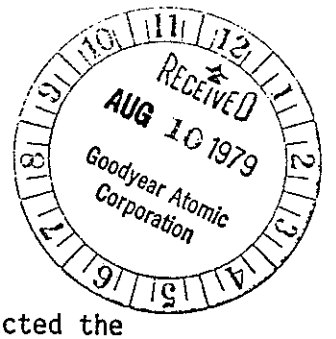
2/1/80

Kent

August 8, 1979



MEMO TO FILE

SUBJECT: ALLEGATIONS BY A FORMER PADUCAH PLANT EMPLOYEE

As per telecon with Fletcher today, August 8.....

Several weeks ago a former employee of Union Carbide contacted the Kentucky Governor's office stating that of the 200 fellow employees with whom he was associated at the Paducah Plant, 50 have already died of cancer. His message carried an allegation that Paducah plant employees are receiving large doses of radiation. The employee's name is Harding. Harding was a prominent participant in last weekend's "no nuke" demonstrations at Paducah.

In response to his contact with the Governor's office, the Kentucky State Department of Human Resources, Radiation Control Branch, requested permission to enter the Paducah Plant to examine the areas where Harding had worked. ORO approved the visit after reminding the state representatives that the Paducah site is a federal government reservation and that the state has no authority therein. The visit was approved in the interest of making information available in order to facilitate the evaluation of Mr. Harding's allegations. Mr. Harding was interviewed by the state representatives on Monday, August 6, 1979. They obtained Mr. Harding's permission to examine his radiation exposure records which are held by Carbide.

Yesterday, August 7, 1979, Mr. Hardin and Mr. Fry of the State Radiation Control Branch, entered the Paducah plant and viewed a demonstration cell, P.W. Area, and the Tails Withdrawal Area (Harding had worked in these areas). They also examined Mr. Harding's exposure records and concluded that during the 15 years of recorded data, that he had accumulated less than a year's allowable radiation dosage. Records did reflect however that he was involved in two minor UF_6 releases during his employment. Upon conclusion of the plant visit, Hardin stated that unless Harding can produce substantial evidence such as a medical doctor's report stating that he has suffered radiation damage, his (Hardin's) report to the Governor would indicate that there is no basis for Harding's allegations. The Governor therefore will probably respond directly to Harding. There might also be a press release describing the results of the visit.

I think it is very significant to know that both Hardin and Fry were both well known by ORO Safety Division personnel. ORO had worked with them on previous occasions and found their thinking to be very reasonable and practical. Hardin is a former employee of Oak Ridge Associated University. I presume this familiarity influenced DOE's granting of approval for the plant visit.

ORO plans to refer subsequent inquiries about the Harding allegations to the Governor's office since his representatives have first-hand knowledge of the situation. ORO will keep us informed.

G. D. Althouse

cy: E/P Committee